JANUARY 1958

The American City

In Englewood, N. J., Police Chief Jack Abrams, City Engineer Elmer Blackwell, Fire Chief Edward Truslowe (left to right), all will have work for the park department utility truck developed by Edward Brarmann, Jr. (far right), Superintendent, Department of Parks and Shade Trees.

See story page 83

The paving problem: *Serious street settlement*

The solution: *A 14-in. Texaco Asphalt overlay*

Plankinton Avenue, important Milwaukee business thoroughfare, after completion of new 14-inch plant-mixed Texaco Asphalt pavement.

CONTRACTOR—*Schneider-Borchert Construction Company, Milwaukee, Wisc.*

Plankinton Avenue in Milwaukee and its surrounding area have been sinking as much as two inches a year, due to poor subsoil stability. To bring the 25 year old pavement on this thoroughfare up to grade called for the addition of as much as 14 inches of new paving.

Under such conditions, the flexibility of heavy-duty, plant-mixed Texaco Asphalt paving becomes doubly important. First, a coarse graded Texaco Asphaltic Concrete foundation (back base) was constructed on Plankinton Avenue in 3-inch layers, varying in total thickness up to 11 inches. This was followed by a 1½-inch binder course of finer graded Texaco Asphaltic Concrete, topped by a 1½-inch wearing surface of smooth, durable Texaco Sheet Asphalt.

Thanks to the speed with which the various courses of Plankinton Avenue's new Texaco Asphalt pavement were laid and compacted, merchants along the street, as well as traffic, experienced a minimum of inconvenience.

Whatever your own paving problem—whether it involves a street, highway, airport or parking area—there is a heavy-duty, intermediate or low-cost type of Texaco Asphalt construction exactly suited to your requirements. Helpful information on methods and materials recommended for all of these asphalt types is supplied in two free Texaco booklets. Copies may be obtained without obligation by writing our nearest office.

The 11-inch Texaco Asphaltic Concrete base was constructed in layers, each with maximum thickness of 3 inches.

Around raised manholes and other utility outlets, the Texaco Asphalt paving mix had to be hand raked.

ENGINEERING • RESEARCH • EDUCATION
THE ASPHALT INSTITUTE
MEMBER

THE TEXAS COMPANY, Asphalt Sales Div., 135 E. 42nd Street, New York City 17
Boston 16 Chicago 4 Denver 1 Houston 1 Jacksonville 2 Minneapolis 3, Philadelphia 2 Richmond 19

TEXACO
REG. T. M.

TEXACO ASPHALT

JANUARY 1958

The American City

A Buttenheim Publication

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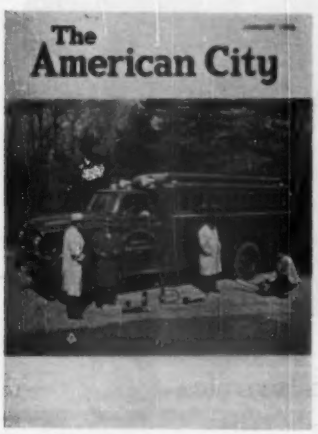

Cover Photo

THE little city of Englewood, N. J., shows how interdepartmental cooperation made it possible for the Parks and Shade Tree Department to get an especially well-equipped utility truck designed also to serve the Fire, Police, and Engineering departments. Superintendent Ed Brarmann, Jr., describes in detail the planning and study that went into the truck in the story beginning on page 83.

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She helps people find the products and services they want. Mrs. Vonna Lou Shelton, telephone representative in Minneapolis, Minn., checks the advertisements that business men have placed in the classified directory.

PHOTOGRAPHS BY ANSEL ADAMS

This telephone girl is a big help to businesses

When you think of a telephone woman you probably think of the operator. But there are many other women at the telephone company who do important jobs for you. And they, too, have the "Voice with a Smile."

For example, Vonna Lou Shelton handles a very necessary service in the business man's world. She is one of many women throughout the country who help different concerns plan and place their advertising in telephone directory Yellow Pages.

Friendliness, good judgment, and follow-through have won for Mrs. Shelton the confidence of business men who appreciate quick, competent service and painstaking efficiency.

Vonna Lou's life is filled with people. Among her principal off-the-job interests are her husband and Sunday School class.

She's a program chairman of a missionary society. Sparks many a fund-raising campaign. Goes to college to study piano and takes lessons to improve her golf.

Like so many folks in the telephone company, Mrs. Shelton has made a lot of friends—on her own, and on the job.

"I don't know of any other work," she says, "that would bring me so close to all my neighbors. Our customers get to think of us as their personal representatives. I like that a lot."

She has a loyal following in the "younger set." *Mrs. Shelton has a way with the children of the neighborhood which inspires a faithful attendance at her class in Sunday School.*

YELLOW PAGES

Working together to bring people together ... **BELL TELEPHONE SYSTEM**

Municipal Observations

DOWNTOWN PEDESTRIAN SHOPPING PLAZAS in the style advocated by Victor Gruen for Fort Worth, Texas, are exciting enough interest so that cities here and there are trying them out to see how they work. ***Springfield, Ore.,*** is about to deliver a report on its test run of the plan, labeled locally as "Shoppers' Paradise." ***Waco, Texas,*** gave it a three-day trial under local sponsorship of a group named Downtown Waco Unlimited.*

• • • •

MUNICIPAL CAPITAL CONSTRUCTION is beginning to loom as something of a bright spot in a somewhat gloomy and uncertain national economy. Last November, *Business Week* forecast that local and state governments would spend about $40 billion this year, and then added optimistically that such a gain would go a long way toward making up for slippage in other quarters.

• • • •

Winnetka, Ill., was scolded recently by the *Chicago Tribune* for "Socialist" tendencies when its voters decided not to sell their municipal electric plant. One definition of Socialism that appeared in the *Tribune* states that it is "government ownership and/or control of the tools of production." Evidently someone forgot that virtually *every* privately-owned electric, gas, communications and transportation utility is subject to governmental controls; state and federal commissions dictate the rates they can charge, the earnings they can realize, and the type of service they must provide.

One day more people are going to realize that these little municipal electric utilities shake off at least some of these state-imposed controls, provide a measure of competitive comparison, and reflect local enterprise. Thus they actually move away from, rather than toward the monopolistic noncompetitive, bureaucratic control of Socialism.

Some day, we will quit using meaningless catch phrases to judge services such as this, and let our decisions rest calmly and unemotionally on what is best for the people served.**

* For a complete description of Fort Worth's Gruen Plan, see THE AMERICAN CITY, June 1956, p. 132.
** For a more detailed discussion of municipally-owned utilities, see "Municipal Electricity and Free Enterprise," THE AMERICAN CITY, August 1957, p. 5.

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Associated Publications
Contractors and Engineers · The School Executive · MART

How a Four-Man Crew laid 1500 feet a day of CLOW Bell-Tite® pipe through Florida swampland

CLOW cast iron pipe, with the sensational Bell-Tite joint, proved its advantages conclusively in this Clearwater, Florida, installation.

That a four-man crew was able to lay this CLOW Bell-Tite pipe at 1500 feet a day under these adverse conditions is definite evidence of the time, labor and money-saving advantages of this CLOW-designed joint. Two men worked in the trench—often in 3 feet of water. One man lubricating and aligning the joints, the other assembling with a pinch bar. A crane operator and a hook-up man completed the crew.

CLOW Bell-Tite forms a pressure-tight joint—instantly—no bolts or follower glands required. Under practically all conditions, it is the fastest, easiest and most economical pipe for water main installation. Underwriters' Laboratories Inc. listed in diameters 3- through 24-inch.

Shows simple assembly of CLOW Bell-Tite joint. Just wipe clean, lubricate and push spigot into the bell. When painted yellow stripe is no longer visible, joint is bottle tight.

Under-water assembly of 8" Bell-Tite pipe at Clearwater, Fla.
Contractor: Hancock Pipe Company, Clearwater, Fla.

JAMES B. CLOW & SONS, Inc.

CLOW 1878 ®

Subsidiaries:
Eddy Valve Company, Waterford, New York
Iowa Valve Company, Oskaloosa, Iowa

Mail Bag

Cities and Big League Baseball: Mayors Have Their Say

Baltimore:

Congratulations to the writer of your excellent article relative to big league baseball and the efforts of municipal governments to obtain franchises for their cities. ("Is Big League Baseball Good Municipal Business?" THE AMERICAN CITY, November 1957, p. 111).

I believe beyond a shadow of a doubt that major league baseball and, indeed, any big league sport is good for a city, its businessmen and its people. Cultural activities should be considered in the same light, aside from and in addition to their own intrinsic value.

Certainly, Baltimore's return to big league baseball after a half-century exile as a minor league town has had a pronounced effect on our city. It has enabled us to shake off the label of sports inferiority which had developed something akin to an inferiority complex among many of our people. Our big league team attracts visitors from all parts of Maryland and from communities in several neighboring states. This, of course, is good for business in many ways.

As Mayor, I considered it my duty to spare no effort to help bring about the return of Baltimore to the big league.

Right now we are hard at work on plans for the construction of a $6 million Civic Center which will include a large coliseum for indoor sports and other events, and a large exhibition hall for conventions, trade shows, exhibits and many other activities.

We are planning urban renewal activities in Baltimore which will cost an estimated $900 million in the next 20 years because we believe that the cities are fighting for existence and we intend to fight with every means at our command.

Again, congratulations.

THOMAS D'ALESANDRO, JR.
Mayor
Baltimore, Md.

Milwaukee County:

The baseball article has timeliness and should attract considerable interest in view of the most recent move of a major league baseball club —the Brooklyn Dodgers. However, we are somewhat concerned over the reference made in the article, wherein it is indicated that all of the municipal stadiums are losing money and that Milwaukee is absorbing the largest losses—some $426,855 per year.

For the calendar year 1956, the gross receipts from all events and sources at the Milwaukee County Stadium were $453,903. Operating expenses for salaries, utilities, supplies, maintenance and repair and miscellaneous expenses were $182,738. This resulted in an operating profit of $271,165. The disposition of this operating profit was $33,000 for interest payments on the bonded debt and $148,900 for amortization or recovery of the total cost of construction and improvement. A balance of $89,265 remains after the above deductions and represents a net return to Milwaukee County of approximately 1.2% of its total investment in the stadium.

We have concluded that the loss cited in the article is based on the premise that the total annual bond principal payments should be charged to the stadium as an annual operating expense and should continue to be so charged until all the outstanding bonds are redeemed. It is our feeling that this premise is highly questionable and does not adhere to acceptable accounting principles.

JOHN L. DOYNE
Acting Chairman
County Board of Supervisors
Milwaukee, Wis.

I read "Is Big League Baseball Good Municipal Business?" with a great deal of interest. I think it is very good, and I am sure your readers found it most interesting.

RICHARD DILWORTH
Mayor
Philadelphia, Pa.

City's Basic Industry

In the editorial of your September issue, "Municipal Services — The City's Basic Industry," it was stated that "Phoenix's basic municipal services are good, and consequently industry likes to come there."

On page 7 of your November issue is quoted a letter from Harold Nevin Carey, Registered Civil Engineer, which includes a statement that "While industries are moving into the *vicinity* of Phoenix, I would say that a majority of them are locating outside the city limits."

It is true that the three large industries mentioned by Mr. Carey have located outside the city. Even had they desired to locate within the city, it would not have been practicable for them to acquire within the existing city limits the large acreages required now and for future expansion.

We have a map showing the location of 56 industrial and commercial plants within the limits of Phoenix which have been constructed since 1952. Many other industries have been brought into the city through annexation. Although the three large industries referred to by Mr. Carey are located outside the city, many of their employees reside within the city proper. The city will benefit from the financial support of the employees of these industries to an increasing extent as the plants continue to grow and as the limits of the city are extended in the future. The industries, in turn, and all their employees will benefit by the services and facilities provided by the central city.

It seems improbable that these industries would have seen fit to locate in the Phoenix area had not the central city of Phoenix been in existence and providing reasonably good service to the residents and to those in its environs.

RAY W. WILSON
City Manager
Phoenix, Ariz.

Story to Recruit Graduate Engineers

We would like your permission to reprint the article "A Parallel Route for Traffic Relief," pages 101 through 104, of the September 1957 issue. The appropriate credit line, "reprinted with permission of the publishers from THE AMERICAN CITY, September 1957," will, of course, be included.

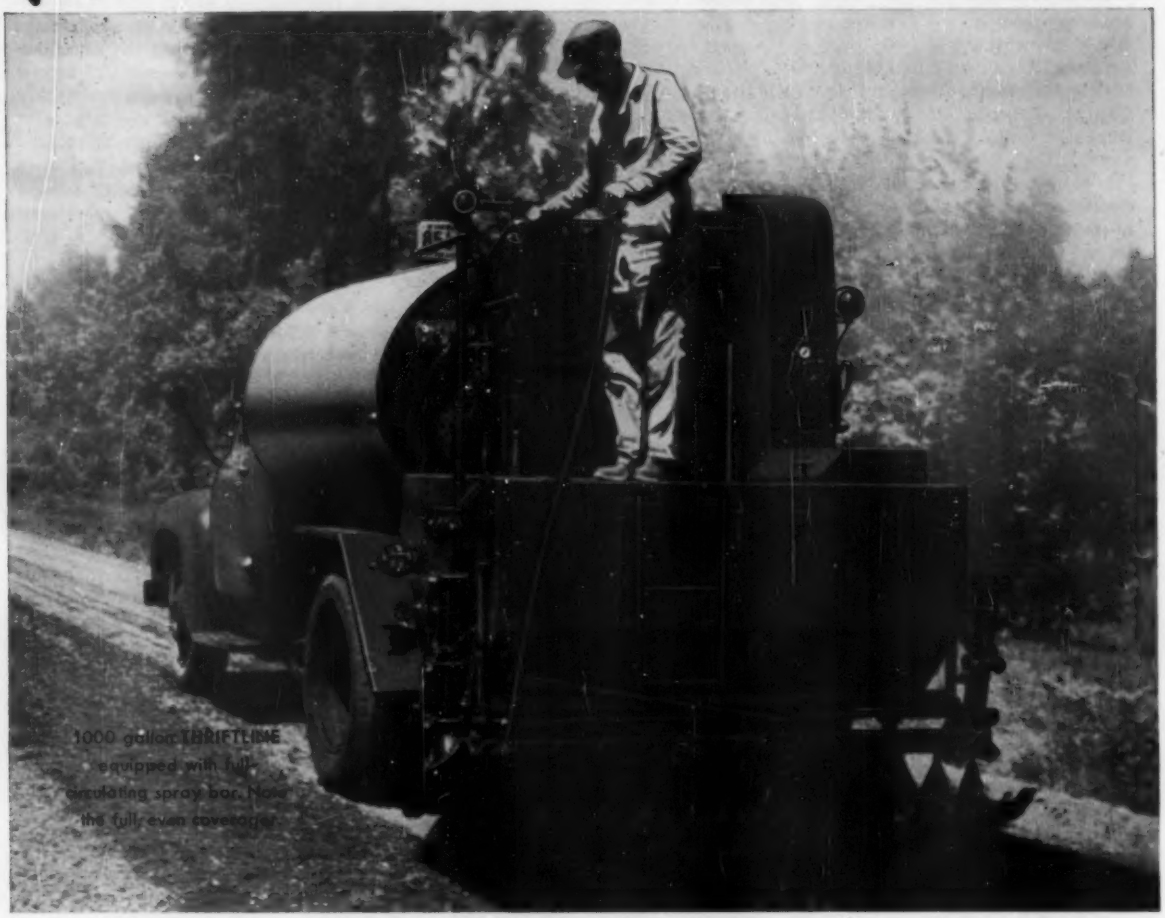
We expect to use these prints in connection with our campaign to recruit college graduating engineers for the city service.

FORBES E. MCCANN
Chief of Examinations
and Recruitment
Personnel Department
Philadelphia, Pa.

EDITOR'S NOTE: Permission granted, of course.

NEW! the Thriftline

(Patent Pending)



America's FIRST BUDGET PRICED, All-Purpose Bituminous Distributor

Here's an all-new, all-purpose distributor designed to heat and apply bituminous material at the lowest possible cost. The THRIFTLINE is a practical, easy-to-operate piece of machinery built by asphalt men and field-tested by contractors. Check these exclusive THRIFTLINE features:

"Easy-Flo" Piping System Provides more useable distributing pressure. Easy to clean. Only five feet in length.

High Operator Platform Puts operator up out of fog where he has 360° visibility. Plenty of room to move around. All controls in easy reach.

Heated, Fog-Free Engine and Pump Housing Engine heats enclosure, keeps system operating at top efficiency. Housing protects all moving parts from fog.

Fireproof Burner Boxes Enclosed burner boxes eliminate fire hazard. Wonderful safety feature!

Leakless Valves Give long, maintenance-free life.

Standard equipment on the THRIFTLINE includes a 36 H.P. air-cooled engine, a 375 GPM pump, a 12-foot suck-back spray bar with positive "cut-off", hand patching hose and spray arm, hydraulic spray bar lift—and many other features usually found only on much more costly distributors. A full line of extra equipment is available, if you need it.

The THRIFTLINE comes in three sizes, truck mounted: 1000, 1250 and 1500 gallon tank capacities. See your "South Bend" dealer or write for information.

FREE CATALOG

Send for colorful, illustrated Catalog T-100.

Other "South Bend" Products: Street Flushers, Maintenance Distributors, Street Sprinklers, Special Tank Equipment

SOUTH BEND

MUNICIPAL SUPPLY COMPANY

2514 S. Main Street, South Bend 23, Indiana

EXPORT OFFICE: 44 Whitehall St., New York, New York

Davenport's Comprehensive Refuse Collection Ordinance

The following ordinance was written and is administered under the direction of Ralph C. Graham, Superintendent of Construction and Public Works, at Davenport, Iowa:*

Section 28. Removal and Disposal.

(a) The Superintendent of Refuse shall have charge of all garbage and rubbish and collection as herein provided and shall be under the direction of and responsible to the Director of Public Works and all additional needed help shall be provided as per the Public Works Ordinance.

(b) ***Refuse-Defined.*** Refuse shall be defined for the purpose of this ordinance as consisting of all garbage and rubbish within the City Limits of Davenport, Iowa, and shall be divided into two classes as follows:

(1) Residential garbage
Residential rubbish

(2) Commercial garbage
Commercial rubbish

(c) ***Residential Garbage*** is hereby defined as discarded or spoiled food stuffs produced for the use of the human, the waste parts of such food stuffs, etc., that come from the family table. This does not include dead animals or parts thereof not used in part for human consumption.

(d) ***Residential Rubbish*** is hereby defined as the miscellaneous waste materials resulting from usual routine of housekeeping, such as tin cans, bottles, glassware, crockery, bones, rags, paper and including ashes, rakings from the yard, grass clippings, hedge trimmings, tree branches up to 6 inches in diameter (or branches larger than 6 inches in diameter if cut into lengths of 3 feet or less) that accumulate from single family, two-family and apartment buildings or yards as legally described in the Zoning Ordinance. This does not include waste or salvaged building material, dirt, tree stumps, tree trunks. The City of Davenport will collect and haul away all tree stumps, tree trunks, branches, etc., that have grown on public property, except that controlled by other governmental branches. Those on private property shall be hauled by property owners or occupants at no cost to the City of Davenport.

(e) ***Commercial Garbage*** is hereby defined as the discarded or spoiled food stuffs produced for the use of the human being, that comes from hotels, motels, trailer parks, restaurants and other places that are selling food stuffs for an assumed profit or from families that do not live in a dwelling as defined in the Building Code of the City of Davenport. Commercial garbage will be hauled by the City of Davenport as per price schedule hereinafter provided in this Ordinance and as stipulated in a contract between the owner or occupant and the City of Davenport, and can be mixed with rubbish and is in an approved container.

(f) ***Commercial Rubbish*** is hereby defined as the miscellaneous waste and materials resulting from the operation of mercantile enterprises and includes packing boxes and cartons, excelsior, paper and rubbish from offices, stores and mercantile establishments, but will not include building material, dirt, tree stumps, tree trunks, etc., which shall be hauled by property owners or occupants at no cost to the City of Davenport. Commercial rubbish as outlined here, will be hauled by the City of Davenport as per price schedule hereinafter provided in this Ordinance and as stipulated in an individual contract between the owner or tenant and the City of Davenport, and can be mixed with garbage if in an approved container.

(g) ***Charges for Commercial Collection — Garbage and Rubbish.*** Upon written request of the owner or occupant to the Department of Public Works for the city to haul their garbage and rubbish, after an examination of their problem, the city will sign a written agreement with such applicant to haul his or their garbage and rubbish.

All zones are determined by the most direct street travel from the City Dump at Myrtle Street to the location. The rates are as follows:

The city is divided into five zones for hauling charges.

(1) For all zones the monthly flat rate is $16.00 per month flat charge.

(2) The hauling charges for each Zone shown on plat on file in the Department of Public Works office.

Zone 1. Within one and one-half (1.5) miles.
$3.00 for each haul.

Zone 2. Within two and one-half (2.5) miles.
$4.00 for each haul.

Zone 3. Within three and one-half (3.5) miles.
$5.00 for each haul.

Zone 4. Within four and one-half (4.5) miles.
$6.00 for each haul.

Zone 5. Within five and one-half (5.5) miles.
$7.00 for each haul.

The flat rate per month shall be paid upon signing of the agreement and not later than the fifth (5th) day of each month thereafter.

Agreements signed prior to the 15th of each month shall pay the full flat rate charge.

Agreements signed after the 15th of each month shall pay one-half the full flat rate charge.

The charges for the hauls shall be paid not later than the fifth (5th) day of each month for such hauls made in the preceding month.

Complete public records of all hauls shall be kept in the office of the Department of Public Works.

The bills shall be paid through the City Treasurer's Office.

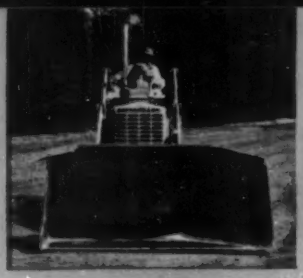
The above prices are based on the city furnishing the applicant with a capacity approved metal container.

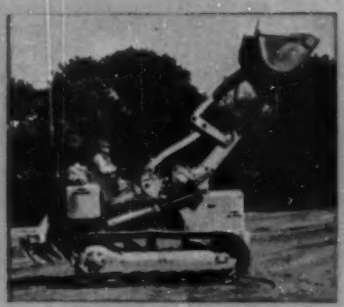
(h) ***Collection and Disposal of Refuse.*** Residential garbage shall be collected and disposed of by the city without charge other than the money appropriated for same in the annual budget. Weather permitting, the city shall make collections at least once each week, except in cases of emergency.

Residential rubbish shall be collected and disposed of by the city the same as for residential garbage. The city shall make such collections approximately every two weeks. Commercial garbage and rubbish shall be hauled as is necessary with a minimum of once each week.

(Continued on page 177)

* Mr. Graham is a past vice-president, Central Area, American Public Works Association, and a frequent contributor to THE AMERICAN CITY Magazine.

Here  comes...

the TRAXCAVATOR'S  new...

SIDE DUMP BUCKET!

—Directly interchangeable with standard bucket...same pins, bolts and nuts!

—Easy to operate! Dumps to the left as well as forward!

Now the famed Cat-built No. 955 and No. 933 Traxcavators are more versatile than ever! The new Side Dump Bucket attachment gives you

- Higher production, because cycle time can be cut
- Lower maintenance, greatly reduced ground scuffing, because turning when loading is no longer necessary
- Easier handling because the unit now needs less space for loading and truck spotting.

Side Dump Buckets Available for the No. 955 and No. 933 Traxcavators!

	No. 955	No. 933
Bucket capacity	1⅛ cu. yd.	1⅛ cu. yd.
Overall width of bucket	96"	86⅜"
Overall height, side dump	17' 5½"	15' 6 1/16"
Overall height, level	14' 6"	12' 11 1/16"
Left side dump reach	24½"	25½"

And you retain all the regular Traxcavator's popular features. Lockout-kickout, bucket positioner, 40-degree tilt-back, one-hand bucket control. No interference, either, with other Traxcavator* attachments when you equip with the new CAT* Side Dump Bucket. Get complete details from your Caterpillar Dealer *now!*

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR*

*Caterpillar, Cat and Traxcavator are Registered Trademarks of Caterpillar Tractor Co.

A NEW DIMENSION IN LOADER VERSATILITY

Cities' Share of Highway Revenues Still Too Low

IN the last few decades, rural-dominated state legislatures have eased in their practice of depriving the urban areas of sorely needed highway funds. Traffic congestion can be attributed, in part, to this past policy.

Researchers tell us that the meager proportion of state highway construction and maintenance expenditures within city limits has increased almost fourfold in the last 15 years. I doubt, however, if this increase is yet sufficient when one realizes that about one-half of the nation's traffic load is carried on city streets that comprise only 10% of the total highway mileage. Of disbursements for capital outlay purposes for state-administered highways, less than half of the amount for primary state highways (rural) is allocated for municipal extensions of state systems.

Further, let us take a look at highway *capital outlay* expenditures by *all* units of government. In the last 30 years while total dollar expenditures have increased by more than 600%, the proportion of the total spent on urban streets has decreased in comparison with the expenditures for county and rural roads and state highways. While this is our history, there is hope for improved distribution of state and and federal funds to local governments because of changes in federal and state attitudes toward urban congestion problems.

L. P. COOKINGHAM*
City Manager
Kansas City, Mo.

* From Mr. Cookingham's talk before the APWA Congress in Philadelphia, entitled "Financing of Streets and Highways."

Grader Rescues Hay-Fever Sufferers

DURING the months of June, July, and August of last year, heavy rains in El Paso caused great damage to streets, paved and unpaved. Many homes were flooded, and storm drains were filled to capacity. Thousands of homes built around the base of Mt. Franklin, and extending as much as seven miles north from the heart of the city, were threatened with flooding when water from the mountain came rushing down canyons and gulleys.

Reinforce Our Efforts

Maintenance crews, using seven power sweepers and three wheel-mounted shovel loaders were weeks behind in their clean-up program, so employees usually used in alley maintenance were used to clear streets of the great amounts of sand, rock, and gravel that had washed in. But as soon as these crews began to clear a few streets, another gulley washer would litter the streets again.

Early in the spring of 1957 the weed crews had cleared the alleys and drains, as well as the retaining dams, of all growth. Then the rains came, and we were forced to make a 100% effort at clearing streets to keep traffic rolling. Several dry years and a good control program had just about licked the weed problem. Average rainfall for the past few years had not been very high—about 7.83 inches was the average. In a period of three months or less we had a fall of 10.45 inches, and all of a sudden we had a great growth of weeds—more rag weeds than I had ever seen. Tumble weeds (Russian Thistle) were everywhere, and the pollen count began to rise and folks with hay fever began really to suffer.

Grader Comes to Our Aid

Mayor Raymond Telles with the approval of Alderman Ted Bender authorized the Department of Sanitation to hire an additional 30 or 40 men, and weed cutting got under way. We soon saw that we were not making any headway against the growth of the weeds —and the hay-fever victims were screaming. The tumble weed is a bad offender, and given a little moisture will grow to great size. Also, it is very hard to cut by hand. So we went to Mayor Telles with a recommendation that we be allowed to rent a small grading machine. We were given permission to do so.

Arrangements were made with the Equipment and Supply Company, dealers for the Allis-Chalmers Company, to rent one of their new Model D machines which feature a retractable blade and full hydraulic controls. Inspector Carlos Gutierrez was drafted and started to cut weeds from our alleys. On his first day he managed to work about 35 blocks; on the next, he cut weeds from 45 blocks. Within a few days the Model D was hundreds of blocks ahead of the crews assigned to raking up and hauling away the weeds. At the end of the 60-day period that we felt was needed to complete the work, we had cut weeds in well over 4,000 blocks of alleys and Mr. Gutierrez had cut weeds from the banks of ditches and from other city property.

The fine little Model D gave us no trouble and our collection crews are still way behind, but the pollen count has fallen to a count of almost nothing and we have proved that a grading machine can be of great value in a Sanitation unit. Our budget request will contain a "plea" that we be allowed to purchase a small grading machine with retractable blade.

ED. F. MUCKELROY
Superintendent of Sanitation
El Paso, Texas

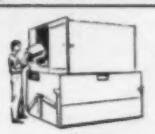
A grader mechanizes weed control in El Paso, Texas.

winner of $32,000 on "The $64,000 Question"

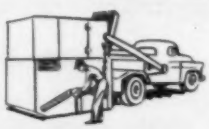
George R. Dempster Says . . .

$32,000.00 Is a Lot of Money

...but many cities save more than that every year with the Dempster Dumpster!



"Containerized" rubbish . . .



is picked up . . .

hauled . . .

and dumped

It's a fact! Your city, like hundreds of others, can save taxpayers thousands of dollars every year with our Dempster-Dumpster System of rubbish disposal. Using this low-investment System, one man and one truck-mounted Dempster-Dumpster can handle the entire bulk rubbish accumulation in the commercial district of a good-sized city. The savings are obvious . . . the improvement in city "housekeeping" is astonishing! Merchants love the big, clean Dempster-Dumpster Containers, which provide enclosed rat-proof, fly-proof, scatter-proof storage of rubbish and refuse. Don't let these savings and advantages get away — start checking your bulk waste disposal costs today.

WRITE TODAY for complete information on our two new time-payment plans.

Dept. AC-1, DEMPSTER BROTHERS, Knoxville 17, Tenn.

America's Leading System of Bulk Rubbish Disposal

THE DEMPSTER DUMPSTER® SYSTEM

Conversion of old truck parts and a used silo loader blower into a vacuum leaf loader ended the leaf loading headaches.

After citizens rake leaves into the street, city personnel use the home-made leaf loader to collect them for disposal.

Rockford's Leaf Loader

AN old truck, used body, and local ingenuity brought about better relations between Rockford, Mich., citizens and their local government. Leaves caused the discord that dates back to 1871. That year local citizens were urged to plant shade trees along every street in town, and to space them about 15 feet apart. Apparently, citizens of that day were public spirited and eager to cooperate, for today most of our streets are lined with closely spaced leaf-bearing giants.

Fallen leaves have always presented the street department with a serious headache. Most all our streets are hard surfaced with curbs and storm drains, and the many steep grades result in a rapid runoff. Leaves must be kept off the street to avoid all the problems resulting from leaves plugging the curb gratings. Until this year we removed leaves mainly by a great deal of frustrating hand labor. To keep from being swamped, we found it necessary to impose the unpopular ban against raking leaves into the street. A manufactured leaf loader was always out of reach of our small equipment budget.

A 1936 vintage truck in the city's equipment graveyard changed the picture. Our welder converted the truck chassis, front axle and wheels into a loader trailer and used the truck's V-8 engine as the power unit. We then purchased a used silo filler blower and completed the job with the purchase of a few new parts, such as the suction hose, discharge pipe and trailer hitch. The receiving unit consists of a used truck body of about 20 cubic yards capacity mounted temporarily on a street department truck. A local truck body manufacturer gave us this for $30.

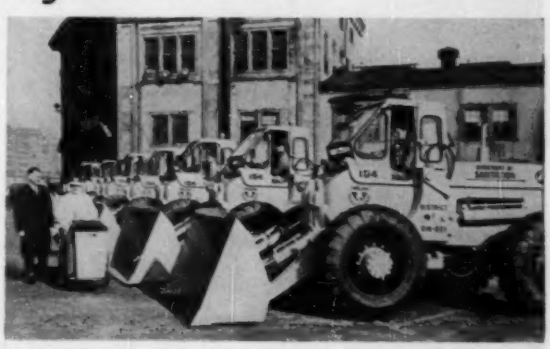
The engine, with clutch and transmission attached, is connected directly to the blower. The suction side consists of 10 feet of 8-inch i.d. flexible hose and an 8-inch flexible silo filler pipe elbow serves as the discharge. When "picking" leaves, the truck tows the loader trailer and a nozzle man "sweeps" the gutter. The loader engine operates at a throttled speed of about 1,350 rpm. This setup attains capacities of over one cubic yard per minute with ease, and does an excellent job of compacting the leaves in the receiving body.

We dump the leaves in an area where they can be saved for compost and used the following year in the city cemetery as well as the parks of Rockford.

We're still making improvements to the loader, but it does a fine job and everyone seems happy with the new leaf loading operation. Of great importance is that John Q. Citizen can at least rake his leaves into the street without fear of the law.

PAUL A. YORK, *City Manager*
Rockford, Mich.

More Mechanized Snow Fighters for NYC



NEW YORK CITY'S Department of Sanitation recently increased its street cleaning and snow-fighting potential through the addition of twenty-six 4-wheel-drive Trojan tractor shovels, eight of which Sanitation Commissioner Paul Screvane is shown inspecting. Made by Yale & Towne Manufacturing Co., New York 17, N. Y., these two-yard capacity shovels add considerable force to an already impressive fleet of equipment. They are used during the winter to expedite snow removal and ice control operations, and throughout the year for general street clean-up work. Note the distinct contrast in size between the 2-yard buckets and the slow-moving 8-cubic-foot capacity double can carrier.

Sign of a progressive city . . .
This graceful, contemporary structure is fast becoming a landmark of America's move to the suburbs.
Horton Waterspheres® and Waterspheroids® match the needs of growing communities esthetically *and* economically. The all-welded structure combines sound engineering with pleasing symmetry, insures minimum maintenance and requires a minimum of ground space for foundations.
Waterspheres are available in capacities to 250,000 gals.—Waterspheroids to 500,000 gals. Write our nearest office for details—ask for the "Watersphere and Waterspheroid Bulletin".
This 400,000-gal. Waterspheroid is one of many Horton structures which now supply the metropolitan Houston, Texas area with over 35 *million* gallons of water storage.
Chicago Bridge & Iron Company
Atlanta • Birmingham • Boston • Chicago • Cleveland • Detroit • Houston
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Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.
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Water Conservation Four-Point Program

A FOUR-PHASED program designed to insure that there will be enough water for American municipalities, manufacturers and farmers in 1975 has been announced by the Water Resources Council, 22 East 60th Street, New York 22, N. Y., a nonprofit group which combines the efforts of 20 national manufacturing, professional, commercial and civic bodies.

Water Shortage Widespread

The nation's water requirements, both per person per industry and total, have grown enormously, the Council warns. This growth demands that steps be taken to stretch the available supply of surface water to expand watersheds, to recharge diminishing groundwater reserves, and to develop a cheap power source for desalting sea water. ***Water shortages, once a peculiarly regional complaint, now afflict virtually every section of the country.*** More than 45 million Americans are regularly affected by such shortages, states the Council.

Industry is today the biggest water user, accounting for 65 billion of the 85-billion gallon daily requirement of Americans for water. Industry's demands are growing not only because of the expanded economy, but also because the industries undergoing greatest expansion happen to be the biggest water users. Water economies advocated for manufacturing include recirculatory systems, cooling towers, heat exchangers, and a concentrated effort to eliminate stream pollution, which greatly restricts the usefulness of any waterway. The Council points out that there is wider acceptance in industry for use of waste effluents by manufacturers, taking this useful supply from municipal treatment plants. The steel industries of Baltimore and Los Angeles have been pioneers in this regard, and only an amount of oppugnancy, derived from habit, limits the extent to which such vast sources of water could be profitably reused.

To ***the farmers***, the Council proposes that they substitute farm ponds for field flooding by stream diversion as a means of irrigation. Since 1940 nearly 8 million acres of eastern farmlands have come under irrigation for the first time, bringing into conflict the farmer, the manufacturer and the municipality, many of whom contend their rights under old riparian laws. Loss of water through transportation by useless water-consuming plants, notably in the West, is also coming under scrutiny by the conservationists. A 30-foot shade tree consumes upwards of 250 gallons per day, while the useless mesquite and catclaw suck from the earth from 400 to 800 gallons per day for every pound of fibre growth. Seven million acres of salt Cedars, another useless tree, consumes a volume of water equal to the annual flow of the Colorado River, principal supplier of water to scores of small communities and Los Angeles.

To compensate for Loss of Water

Watershed development through an expanded program of local watershed districts can in a measure compensate for the loss of much of the country's watershed by urban expansion and large scale public works. In this latter connection the Council reports that the present federal highway building program will create a runoff amounting to billions of gallons. A mile long stretch of 20-foot pavement collects about 198 million gallons of water in most of the United States, enough for a population of 4,000 at a per capita consumption rate of 140 gallons per person.

In the homes, too, there is need for education to discourage the popular view that there is an endless supply of fresh water. The ancient adage, "Waste Not, Want Not" applies here. Municipalities should objectively explore the amount of water (most of which is lost) which annually falls on its streets and structures. One recent author, notes the Council, has estimated that enough water falls on New York's 5,725 acres of airport structures to supply the water needs of 100,000 persons.

Accelerated Survey of Ground Water

The need to accelerate the nationwide survey of ground water, water in underground aquifer, is imminent, believes the Council. While a great deal is known of these regionally, there seems to be no plan for evaluating their quality, facilities for dependable flows, and most important, no general plan for recharging them from surface water runoff. This latter, the Council reports, accounts for about one-half of all the water Nature bestows as rainfall or melting snows, and of this, half that flowing through polluted water courses itself is lost for use purposes.

For Desalinization—Cheap Power a Must

Desalinization of sea water, a project under development by the Atomic Energy Commission, if ever to have practical applications for American industry, calls for a cheap power source, believes the Council. Nuclear fission reactors may be the answer, but first must come the large expenditure necessary to lower the unit cost. So far both hydroelectric and steam generated power costs have proved too great to make such projects feasible except in limited measure.

Per Capita Water Use Due to Increase

TODAY, the nation's cities require an average of 160 gallons of water per person per day; this will probably increase to 175 gallons in 1975, and 200 gallons in the year 2000, according to Harry Jordan, who is secretary of the American Water Works Association.

The nation's water resources can provide this, he feels certain, if the country makes intelligent use of its land, eliminating soil erosion and providing adequate storage facilities. While saline water treatment is the dream of many technical men, and is feasible today if the user is ready to pay the price, refined sea water is not an economical substitute for the billions of gallons of water that are now used in cities, by industry or agriculture.

Mr. Jordan expressed these opinions before the American Public Works Association in its annual Congress held recently in Philadelphia.

TENNANT Model 100 sweeping street in large eastern city. Available with cab, power steering, leaf rake, etc.

A NEW CONCEPT IN ULTRA-CLEAN SWEEPING

After 11 years of continuous research as America's largest manufacturer of vacuumized sweepers, TENNANT takes pride in introducing a totally new concept of clean sweeping—with the TENNANT Model 100 *Vacuumized* Sweeper.

It is specially engineered to provide *cleaner sweeping than has ever been possible before* . . . and does NOT require water to control dust.

Results are dramatic! With its powerful *vacuum*-connected brooms, the new TENNANT Sweeper picks up dirt and debris that other sweepers miss... sets a new standard in sweeping streets, bridges, tunnels, parking lots, airports, factory yards, etc.

Best of all, *there's no dust nuisance.* The Model 100's huge filter system removes dust finer than the eye can see. No annoying dust clouds . . . no water spray. You'll see the difference at once.

WRITE TODAY *for performance data, photos, etc.*

BEFORE. Ordinary sweeper must use water to stop dust when sweeping gutter like this.

CONVENTIONAL SWEEPING often leaves trails or mud streaks which later turn to dust.

TENNANT SWEEPING gets the dirt that other sweepers miss. Does a job you can be proud of!

SWEEPS EXTRA CLEAN... NO DUST NUISANCE... NO WATER NEEDED
IDEAL FOR CONGESTED AREAS... MANEUVERABLE... VERY EASY TO USE

Here are the facts

QUESTION: *How is the new* TENNANT *Sweeper actually able to end the dust nuisance?*

ANSWER: First of all, its brooms rotate in *vacuum-equipped* housings . . . and all dust is forced through a filter system which removes particles as fine as 5 microns (2/10,000"). Such dust is *so small it can't be seen by the human eye.* That's why there are no annoying clouds of dust around a TENNANT.

QUESTION: *Can we now eliminate use of water?*

ANSWER: Right. There's no need for water. Result: no mud streaks left on streets . . . no time-wasting hydrant stops . . . no heavy water-tank . . . no trouble in below-freezing weather. Lets you sweep efficiently the year around.

QUESTION: *What about coverage of this sweeper?*

ANSWER: The TENNANT "100" sweeps a 7'4" path and operates at speeds to 15 mph. Its dirt hopper (conservatively rated at 1¾ yards) actually dumps close to 2 yards . . . and *holds more than many sweepers of larger rated capacity.* This is because dirt is thrown to rear of hopper and fills easily—unlike conventional elevator-lift sweepers where dirt piles up so hopper capacity is seldom utilized. TENNANT uses no conveyor.

QUESTION: *Has the* TENNANT *Sweeper any "off-street" uses?*

ANSWER: Yes, the TENNANT "100" is unmatched when it comes to sweeping congested areas—including "off-street" spots where conventional sweepers can't be used. Its 9'2" turning radius, short wheelbase, high visibility and vacuum dust control make it remarkably versatile.

It is ideal for downtown areas, alleys, parking lots, tunnels, bridges, shopping centers, air terminals, factory yards—in fact for *any area where EXTRA-CLEAN sweeping is desired.*

It will pay to investigate the revolutionary
***NEW* TENNANT VACUUMIZED SWEEPER if...**

...you want EXTRA-CLEAN sweeping

...you have had complaints about the dust kicked up by non-vacuumized conventional sweepers

...you want to eliminate problems caused by use of water spray

...you want "dust-free" sweeping the year around

...your city wants "more for its money" in a sweeper

FOR MORE INFORMATION on this new, totally different TENNANT "100" *Vacuumized* Sweeper, write for specifications and performance data.

TENNANT

VACUUMIZED SWEEPER

G. H. TENNANT COMPANY • 751A N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

Our Municipal Notebook

Mayors at AMA Meeting Call for Stepped-Up Federal Aid

THE federal government's attempts to abandon or weaken grant-in-aid programs affecting municipal government were condemned last month by the powerful American Municipal Association which represents 13,000 of the nation's 17,000 municipalities. The blast came in an official policy statement adopted at the Association's 34th annual meeting held in San Francisco, December 1-4. Over 1,500 mayors, city councilmen, and other municipal aides attended the conference.

Formal Resolution to Congress on Metropolitan Area Aid

To top their disapproval, the mayors officially called upon Congress to continue, broaden or establish new aid programs for municipal water treatment facilities, sewage disposal plant construction, urban renewal, public housing, civil defense, and airports. And to give greater emphasis to the needs of metropolitan areas, the AMA members together with the 46 state leagues of municipalities that are also part of the Association, asked that the aid funds be allocated in the future directly for metropolitan cities and their suburbs. Specifically, the AMA resolution said:

We advocate that all federal grant-in-aid funds to the states be earmarked in two categories—to metropolitan areas and to the states for all other purposes—and that federal funds in the former category be distributed to the appropriate agency with due regard to the overall population of the metropolitan area served.

With regard to the other aid programs the resolutions called on Congress to approve:

1. grants totaling $100 million a year instead of $50 million for sewage treatment plant construction;

2. $500 million a year instead of the current $350 million for urban renewal;

3. a nationwide system of civil defense shelters to protect populations against "blast, heat and radiation effects of nuclear explosives" to be developed by the federal government through the FCDA;

4. new legislation to permit the federal government to make financial aids available for state flood control or irrigation projects constructed primarily for the development of municipal or industrial water.

Asks Aid for Mass Transit

To help the ailing mass transit industry in the nation's big and small cities, AMA also asked that Congress establish a new federal lending agency that would use revolving funds operating outside the federal debt limit to be advanced to transit companies for capital improvements that meet the standards of local governments. AMA also called upon the federal government to undertake full national population censuses every five years instead of every 10 years to keep pace with the high rate of population increase affecting cities and towns.

While the policy declarations formed the biggest news at the conference, the mayors also got a full dose of warnings and some prescriptions about the ever-worsening conditions of their cities. Said Roy W. Johnson, vice president of the General Electric Company: "As places to live, but also as places to do business . . . our cities fall so short of our technological capabilities as to be a disgrace. . . . Transportation is dangerously close to a complete breakdown in many urban areas. . . . The plain fact is that our cities are not fulfilling their primary function —serving the needs of their people."

Cooperation Between Industry and Municipal Government Urged

Closer cooperation between industry and municipal government in mutually solving the crisis of the cities was recommended by Mr. Johnson. This "partnership between industry and the city," he said, "must be on a two-way something-for-something basis which will bring both along to where they will be able to live up to their usefulness to all concerned."

Mr. Johnson recommended five necessary ingredients in this cooperative effort:

1. alertness and efficiency in local government as evidenced by a comprehensive plan for community growth . . . annual and long-range capital improvement budgeting . . . elimination of slums and neighborhood blight . . . effective zoning ordinances, and building and housing codes, sound tax structure and financial condition.

2. a business-climate-minded attitude among elected representatives of the community at local and national levels.

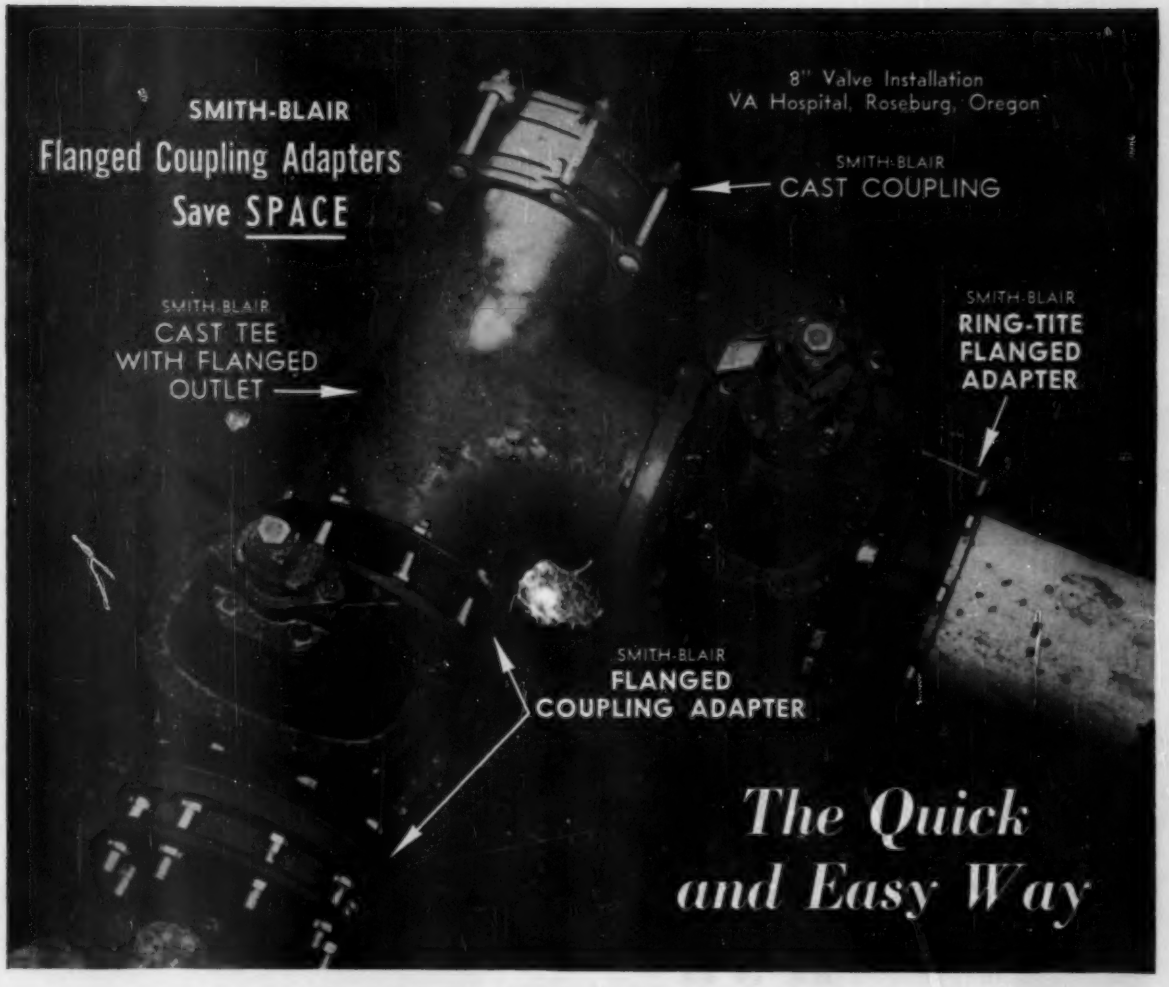
3. efforts to improve the quality as well

(Continued on page 21)

REPRESENTATIVE MUNICIPAL BOND ISSUES
November 12 to November 26, 1957

Date of Issue			Purpose	Average Maturity (Years)	Net Interest Cost or Basis (Per Cent)	
11/12/57	Bigelow, Minn.	$ 25,000	General Obligation Water Works	6¾	4.286	
11/14/57	Alliance, Ohio	90,000	Street Improvement Special Assessment—1958, 2nd Series	6½	3.45	(basis)
11/14/57	Burlington, Vt.	325,000	Sewage Disposal	8½	3.06	(basis)
		10,000	Nursing Home	1	3.06	(basis)
11/14/57	Dayton, Ohio	1,500,000	Water Works Extension & Improvement, Series B	14	3.29	
		300,000	Storm Sewers Improvement, Series B	11½	3.29	
		750,000	Street Improvement	9	3.29	
11/18/57	Barnegat Light, N. J.	35,000	Water Assessment	4	3.50	(basis)
11/18/57	Kenosha, Wis.	1,085,000	Corporate Purpose, Series 1957	9½	3.4435	
11/19/57	Jefferson Co., Ind	200,000	Hospital	6¾	3.0059	
11/19/57	Kennewick, Wash	32,000	General Obligation	6¼	4.249	
11/20/57	Kansas City, Mo	1,200,000	Municipal Airport, 7th Issue, Series C	10½	2.9062	
		175,000	Fire Protection, 8th Issue, Series B	9½	2.9062	
		825,000	Redevelopment, 1st Issue Series C	10½	2.9062	
		1,000,000	Revolving Fund, 1st Issue Series A	10½	2.9062	
		500,000	Trafficway & Boulevard, 2nd Issue, Series C	10½	2.9062	
11/20/57	Lindenhurst, N. Y.	105,000	Various Purpose—1957	3	3.06	(basis)
11/20/57	Ashland, Mass.	100,000	Water, 2nd Issue	5¼	3.212	(basis)
11/26/57	Endicott, N. Y.	868,000	Sewer	11¾	3.02	(basis)

Compiled from THE BOND BUYER



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Any Type • Any Size

SAVE TIME, MONEY . . . Cut Installation Time and Costs

- **No cutting of pipe to exact lengths**
- **No threading or flanging of pipe**
- **No flanged spacers or spools required**
- **No other fittings needed**
- **Accommodates varying pipe sizes to flanged fitting**
- **Smaller housing needed**
- **Replacement of flanged fitting quick and easy—just remove bolts and lift it out**

Write for additional information:

SMITH BLAIR

• P.O. Box 666 •
South San Francisco, Calif.

STOCKING JOBBERS IN PRINCIPAL CITIES

LOCK JOINT ECONOMIES: *One of a Series*

It's a bargain!

If Peter Minuit were alive today probably nobody would be more surprised than he at the extent of the bargain he made with the Indians for Manhattan. His $24 investment now has an assessed valuation of more than $7,000,000,000.

But no one should be surprised at the value offered by LOCK JOINT CONCRETE PRESSURE PIPE. For a great many years the low first cost of this pipe has been assured by keen competitive bidding, its simplicity and speed of installation have helped to reduce construction costs, its record for dependable, trouble-free service has been unexcelled and its operational and maintenance costs have been minimal.

What more can you ask in the way of a bargain? Highest quality, low cost, best service, least maintenance — that's LOCK JOINT CONCRETE PRESSURE PIPE.

LOCK JOINT PIPE CO.

East Orange, New Jersey

Sales Offices: Chicago, Ill. • Columbia, S. C. • Denver, Col. • Detroit, Mich. • Hartford, Conn. • Kansas City, Mo. • Perryman, Md.

Pressure • Water • Sewer • REINFORCED CONCRETE PIPE • Culvert • Subaqueous

(Continued from page 18)

as quantity of the people and therefore the working force in cities by "raising general and vocational education standards and facilities."

4. a high quality for all industrial employers in the city. For, unless industrial neighbors use forward-looking employment and community relations practices, "good" industries will not remain or be attracted to the cities.

5. bold leadership on the part of mayors in advancing positive programs to solve the urban crisis.

Catherine Bauer Wurster, noted lecturer and writer on urban problems, expanded on the critical importance of leadership on the part of the mayors and the mayors alone. She said of city problems: "The real challenge today is at the political level. The professional planners and other experts whom you've been hiring in such admirable profusion can be very useful. Indeed they're essential to organize the complicated data, pose the issues, outline the alternatives on which major policy determinations must be based. But planning is only a tool for long-term political decisions. The big issues that will galvanize the public and transform their hopes and frustrations into effective action have to come directly from their elected leaders and not any hired brain trust."

The conferees elected George Christopher, mayor of San Francisco, as their new president. Cleveland's Mayor Anthony Celebrezze, was elected vice president.

Howard E. Moses

HOWARD E. MOSES, Director of the Division of Sanitary Engineering in the Pennsylvania State Department of Health since 1942, and nationally recognized as a pioneer in clean streams programs for his outstanding work in that field, died November 13, 1957, in the Reading Hospital.

Mr. Moses, who had celebrated his 82nd birthday on October 15, suffered a heart attack in August of this year, but had returned to work at the State Health Department until again confined to a hospital in recent days.

He was the oldest full-time professional employee with the State Health Department, having joined the Department on June 8, 1908, as an Assistant Engineer.

Race Survey for Newark

A CITYWIDE $30,000 survey to determine Newark, N. J., neighborhood patterns and population characteristics will be made by Market Planning Corporation, 642 Fifth Ave., New York, N. Y., an affiliate of the McCann-Erickson advertising agency. It had been pointed out that there were some tensions among the whites and nonwhites in Newark, particularly in problems of employment, housing and schools for Negroes.

Face-to-face interviews with residents will, according to Dr. Benjamin Lipstein, technical director of Market Planning Corporation:

1. Evaluate attitudes about neighborhood and racial and ethnic groups, particularly with regard to opinions on sources of friction between groups;

2. Determine positive and negative factors of importance to improve intergroup relations in the entire city;

3. Estimate total Newark population by age, sex and race in addition to other citywide characteristics;

4. Recommend to the Mayor's Commission on Group Relations possible education and action programs designed to accelerate the work of the commission in maintaining the peace and harmony of the residents of Newark.

Urban Northeast Most Accident-Free

IF YOU WANT to avoid death by accident, your chances are best if you live in the densely populated urban Northeast, and poorest in the sparsely settled western mountain region. A study by the Metropolitan Life Insurance Company shows that the fatal accident rate in Nevada and Montana exceeded 90 per 100,000 population, which was more than 1½ times the national figure. At the other extreme were New Jersey, New York, and Rhode Island, with accident death rates under 45 per 100,000.

The geographic pattern for all types of fatal accidents as a group is determined in large measure by the variations in the motor vehicle accident death rate. In the Mountain States the mortality from such accidents—32.9 per 100,000 in 1954-55—was more than twice that in either the New England or the Middle Atlantic region. Each of the eight mountain states had a motor vehicle accident death rate above that for the country as a whole, most of them exceeding the national average by more than 50%. The mortality from this type of accident alone in Nevada—47.1 per 100,000—was nearly 15% greater than the death rate from all accidents combined in New Jersey. Outside the Mountain region, the motor vehicle accident mortality was particularly high among the residents of Texas, Kansas, Michigan, and Georgia.

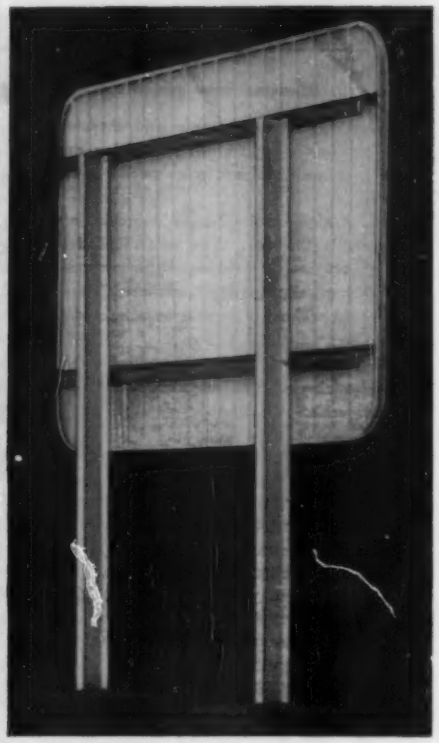
Baltimore's Tax on Advertising: A Revenue Lode and Hornet's Nest

IN A precedent-breaking move, the Baltimore city council recently enacted an advertising tax, thus making the Maryland city the first municipality in the nation to impose a direct tax on advertising media.

The new tax, which is expected to bring an additional $2,650,000 to the city's treasury, provides (1) a 4% tax on the gross sales price of advertising space in newspapers, magazines, programs, directories and other printed matter and on intrastate advertising time sold by radio and television stations (it also applies to billboards and slogans carried by airplanes over Baltimore); (2) a 2% tax on gross receipts of these advertising media. (Nonprofit institutions and their publications are exempt). The new taxes went into effect January 1. According to the Advertising Federation of America no city or state has such a tax, although several cities, including New York City, and some states tax advertising as part of a general sales tax.

Recommended by Budget Director Charles A. Benton, the advertising tax was strongly backed by Mayor Thomas D'Alesandro, Jr. It was bitterly opposed by Baltimore labor, business and media groups. Prior to its passage, at a hearing by the City Council's budget committee, opponents charged, among other things, that the tax would abridge freedoms of speech and press, would have a devastating effect on the city's retail business and would increase costs to the consumer.

Following passage of the law, Baltimore's two daily newspapers and three television stations brought four suits against Mayor D'Alesandro and the City Council challenging the advertising taxes as unconstitutional, arbitrary and discriminatory and in restraint of trade. The plaintiffs asked that the taxes be declared invalid and an injunction be issued to



Signs and Posts of Alcoa Aluminum

GUARD LIFE AND DOLLARS ON NEW YORK STATE THRUWAY

Along the New York State Thruway, signs and posts of Alcoa® Aluminum are cutting the cost of traffic safety. Moisture that gives rise to destructive delamination or rusting of other materials is no problem with aluminum.

That means "Scotchlite" Reflective Sheeting adheres better and longer. Neither sign backs nor rugged aluminum I-beam posts will ever need painting. Even when the sign is damaged by vandalism or collision, there's no progressive corrosion to wreck the message film.

Large informational signs on this modern highway are assembled from extruded aluminum panels with integral ribs for essential rigidity. Smaller installations use flat sheet. In either case, rugged Alcoa Aluminum alloys will withstand winds of hurricane force. Aluminum adds another cost-cutting advantage in the form of light weight: both signs and posts are less expensive to ship, faster and easier to install.

Ready-to-erect signs and posts of Alcoa Aluminum are available from the manufacturers listed below. Contact the one nearest you *today*.

Always Fasten Aluminum with Alcoa Aluminum Fasteners

NEW:

Handbook on Aluminum Traffic-Control Devices

Send for your copy of this outstanding Alcoa booklet. Complete data on all aluminum sign products including specifications. Write: Aluminum Company of America 1680-A Alcoa Building, Pittsburgh 19, Pa.

These manufacturers sell various types of finished signs of Alcoa Aluminum

S. G. Adams Co.
920 Olive Street
St. Louis, Missouri

***A'G'A Division of Elastic Stop Nut Corp. of America**
1030 Newark Avenue
Elizabeth, New Jersey

Catophote Corp.
2505 Albion Street
Toledo, Ohio

***Federal Sign & Signal Corp.**
1700 S. State Street
Chicago 19, Illinois

Gopher Stamp & Die Co.
78 Chicago Avenue E.
St. Paul, Minnesota

Grimm Stamp & Badge Co.
8105 Rosalie
St. Louis 17, Missouri

The Hunt Company
18308 James Couzens Hwy.
Detroit 35, Michigan

Lyle Signs Inc.
2720 University Ave. S.E.
Minneapolis 14, Minnesota

M-R Sign Co.
Fergus Falls, Minnesota

***Minnesota Mining & Mfg. Co.**
900 Fauquier Avenue
St. Paul 6, Minnesota

Miro-Flex Inc.
1824 E. Second Avenue
Wichita 7, Kansas

Mulholland-Harper Co.
5820 Tacony Street
Philadelphia 24, Pa.

Municipal Street Sign Co.
777 Meeker Avenue
Brooklyn 22, New York

National Safety Engineers, Inc.
3910 First Avenue, South
Birmingham 1, Alabama

Safety Sign Co.
12351 Prospect Avenue
Strongsville, Ohio

Standard Sign & Signal Co.
470 Main Street
Clinton, Massachusetts

***Traffic & Street Sign Co.**
80 Foundry Street
Newark, New Jersey

Zumar Industries
1608 Essex Street
Los Angeles 28, California

**The manufacturers noted with an asterisk furnished extruded signs for the New York Thruway.*

Your Guide to the Best in Aluminum Value

WE CHOSE ALCOA ALUMINUM MILL PRODUCTS
ALUMINUM COMPANY OF AMERICA

"ALCOA THEATRE"
Exciting Adventure
Alternate Monday Evenings

prevent them from going into effect.

However, in the view of Budget Director Benton, the tax will provide additional funds needed to maintain essential municipal services. Baltimore's general budget fund for this year is $156,000,000, an increase of $17,564,000.

$20 Billion for Nationwide Shelter System Recommended

A $20 BILLION network of air-raid shelters to protect civilians in cities and towns from the fallout effects of nuclear bombs has been recommended to the nation's top policy-making board—the National Security Council. The report concludes that the construction of shelters capable of withstanding the blast effects of atomic or hydrogen bombs would be "unrealistic". The writers make this conclusion on the basis of greatly shortened warning time for nuclear attacks inherent in warfare practiced with intercontinental ballistic missiles.

The report is the latest recommendation that the nation develop an effective shelter system for civilian defense. Last winter the Federal Civil Defense Administration and a series of scientific experts including Dr. Edward Teller, the "father" of the hydrogen bomb, and a team of experts from the Naval Radiological Defense Laboratory in California individually urged nationwide systems of bomb shelters costing from $20 to $40 billion. The naval experts claimed that their system which would protect against blast as well as fallout effects would give every American a 99% chance of survival in an attack.*

Among other conclusions made are:

- **the vast expenditures involved in the recommended shelter system are essential as a precaution against a major war,**
- **a new kind of attack warning system should be developed to warn populations to protect themselves against invisible radiation drifting onto them from distant explosions after an atomic attack on the nation.**

The report was prepared in great secrecy on orders from the Office of Defense Mobilization and the National Security Council. A committee of highly respected citizens who in past years have been directly connected with national policy-making drew up the report. They included: H. Rowan Gaither, Jr., former president of the Ford Foundation; William C. Foster, former Deputy Secretary of Defense; Paul E. Nitze, former director of the State Department's policy planning staff; James Phinney Baxter III, president of Williams College; Robert A. Lovett, former Secretary of Defense; and Robert Chapman Sprague, president of the Sprague Electric Co. of North Adams, Mass.

* EDITOR'S NOTE: For a detailed analysis of the survival rates of shelters studied by the Federal Civil Defense Administration, see "H-Bomb Shelters Provide 3:1 Survival Rate", THE AMERICAN CITY, September 1957, pp. 177-181.

Overseas Neighbors

CEREMONIES linking one more U. S. city with one abroad were recently observed in ***Lexington, Ky.***, now twinned with Deauville, France.

Mayor M. Rober Fossorier of Deauville accepted a key to Lexington from Mayor Shelby Kinkaid in mid-October, during two days of plush-carpet entertainment, a tour of Central Kentucky's famous horse farms, and attendance at Keeneland races, where the Deauville mayor presented one of the winners' trophies. Deauville, like Lexington, is a center of the horse-breeding industry and has famous race tracks.

Montclair, N. J., affiliated itself with Graz, Austria. There have been cultural exchanges, such as photography exhibits, books, fine art and ceramic shows, and the doctors in town organized a campaign to send a miscroscope and an incubator to the Graz Hospital. A successful student exchange also exists. Goodwill and friendliness were furthered when Mayor Spek and his secretary made a trip to Montclair. Graz, in turn, has rolled out the carpet not only to Montclair students, but to visiting private citizens as well.

New Haven Announces Downtown Old Folk Center

TO HELP FULFILL the remaining years of the more than 25,000 persons over 60 years of age in its population, New Haven, Conn., is developing a Senior Citizens' Day Center. The center, which will be the first in any Connecticut municipality, will be established downtown in an abandoned but remodeled elementary school. The city government has budgeted $15,000 as a start for the total rehabilitation job. Other funds are coming from the state and from private groups interested in the welfare of older persons.

While recreation facilities will be emphasized in the building, it will contain areas where retired persons seeking part-time employment can obtain job-placement advice. Additional offices will provide aid for older people searching for housing, suitable for their needs.

In announcing the plans for the establishment of the center, Mayor Richard C. Lee, recently had this to say about the responsibilities facing cities experiencing a rising proportion of older people in their population:

Our responsibility as a city is to establish public services which help the older people to help themselves to better employ and enjoy their skills, the experiences and resources they have acquired over a lifetime.

'Parky' Clean-Up Program Starts at Long Beach, Calif.

LONG BEACH, Calif., has inaugurated a city-wide cleanup program, intended to focus attention on a year-round litter prevention campaign. The program, a joint city and Chamber of Commerce effort, ties in with the "Parky" clean-up program that has been used effectively in other communities. Representatives of the City Manager's office, Park, Recreation and Public Service departments are included on the steering committee.

Gathered to support Parky, the cleanup kangaroo, are (left to right) G. J. Badenhausen, president, Long Beach's Chamber of Commerce; Mayor Ray C. Kealer, Joseph Prendegast, executive director of the National Recreation Association, and Park Ranger Jerry Wanek.

INSIDE STORY
of a smart investment for YOUR CITY!

It's a good idea to look under the "hood" of a parking meter because what's inside the meter usually determines whether it's going to be an asset or a liability. A lot of intricate mechanism could and usually does increase maintenance and reduce revenue.

When you examine the inside of a MI-CO Manual Parking Meter you'll be surprised at the small number of parts and how accessible they are. MI-CO mechanism is simplified for quick and easy servicing, as shown by the four illustrations. This feature assures a minimum of down time and maximum earnings.

The MI-CO Manual may be set for any number of hours on various coin combinations, and one coin slot takes all denominations from a penny to a quarter. The meter shown here is arranged for the new MI-CO Coin Collection System which is fast, dependable and tamperproof. The system is also adaptable to MI-CO Manuals already installed.

If you are considering a new installation, replacing less efficient meters, or adding to your present setup, be sure to investigate MI-CO. They have much to offer in low first cost, low maintenance expense, exceptionally high earnings, and long productive life. Write today for the complete MI-CO story.

MI-CO METERS • The Michaels Art Bronze Co., Inc.
P. O. Box 668-A, COVINGTON, KY.

MICHAELS PRODUCTS:

Louvers
Letters
Spandrels (cast & extruded)
Name Plates
Honor Rolls
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Vault Grilles
Calendar Racks
Tablets & Signs
Church Work (special)
Bronze Inurnment Urns
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Bronze Vases (cemetery)
Memorial & Grave Markers
Vertical Pivoted Windows
Railings (balcony, counter & stair)
Architectural Curtain Walls
Doors (entrance & mausoleum)
"Time-Tight" Trophy Cases
MI-CO Parking Meters

Are Present Park Area Standards High Enough? No, Says Park Leader

STANDARDS for park and playground areas are being re-examined by park and recreation specialists throughout the country. The latest to comment on this subject is Conrad L. Wirth, director of the National Park Service and one of the most prominent leaders in the recreation field. In his remarks addressed in late September 1957 to members of the American Institute of Park Executives, Mr. Wirth denounced as outmoded the traditional community-wide recreation space standard of 10 acres per 1,000 persons. He called for an immediate doubling of present municipal, state and national recreation acreages.

The following are excerpts from Mr. Wirth's address:

What is the present park-land situation in the continental United States? We have something like 300,000 acres in out-of-city parks and recreation areas owned by cities and counties, 5 million acres in State Park systems, and almost 17 million acres in areas administered by the National Park Service. That adds up to less than an eighth of an acre per person, and most of it is in the national parks, far removed from the centers of population.

The National Recreation Association has found that since 1940 ***the growth of city park acreage has failed to keep pace with population gains*** and that the loss has been greater since 1950 than in the preceding decade.

The Association reports that: "Only one city in four meets the standard of one acre per hundred population; the percentage would be even smaller if out-of-city parks were excluded."

According to a recent survey of the 250 largest cities in the United States, considerably less than one-half of these cities own out-of-city parks. More than four-fifths of the out-of-city park acreage was acquired before 1941 and less than one-tenth has been acquired since 1950.

How much land is needed for recreation and preservation of natural scenic resources? Aside from standardized city playgrounds, I do not think this question can be answered dogmatically by stating, "We need so many acres per 1,000 population." The size or number of facilities necessary to take care of a certain number of people can be determined, particularly on municipal playgrounds. We can determine how many people can use a designated picnic area, campground, or bathing beach, but in so doing we ignore the subjective values—the personal feelings of the users about such crowding. But who is to set arbitrary limits on the acreage of land and water that should be set aside to preserve recreation resources, such as open space for people to roam or rest, away from crowds in a natural environment? We know that the more people crowd into a park or natural area, the more the intangible satisfaction and refreshment one receives from being in the out-of-doors is apt to be lost. The location of the parks, the topography, plant life and use of surrounding lands and many other factors influence the amount of land needed.

The Coordinating Committee on the Potomac recently stated that

Congress should enact requirements that for each mile of road built under the President's (Highway) program, 1,000 acres shall be set aside for conservation and recreation lands.

At the Seventh National Recreational Congress in 1955, it was suggested that three acres per thousand people should be used for schools and playgrounds; 10 acres per thousand for urban parks and parkways; and another 10 acres per thousand for metropolitan parks, beaches, and recreation areas.

I am of the opinion that ***the proposed standard of 10 acres per thousand people for metropolitan parks, beaches, and recreation areas is inadequate for most sections of the country.*** A 1956 report by the California Committee on Planning recommended that there should be in the neighborhood of 15 acres per thousand population for in-city parks and recreation facilities in addition to parkways and waterfront developments. I understand that since they made this study they have decided that their standards are low. Perhaps we have all been nearsighted.

I believe that ***there is an immediate need for at least twice as much acreage for recreation purposes as currently exists, and for recreation acreage more strategically located with respect to population.***

Eight Conditions for Good Park Turf

A COMBINATION of eight ingredients will guarantee a prize-winning turf in the view of O. J. Noer, agronomist of the Milwaukee Sewerage Commission, who is a specialist on turf problems. Mr. Noer submitted these needed factors to park superintendents attending the American Institute of Park Executives' Conference last fall:

1. A type of grass suited to the soil, climatic and other natural conditions in the geographical area where the turf is to be developed.

2. Sufficient amounts of light (very heavily shaded areas may require other than grass covers).

3. Favorable temperatures. Very prolonged extremes of heat and cold will even damage those grasses that are adapted to warm or cool areas.

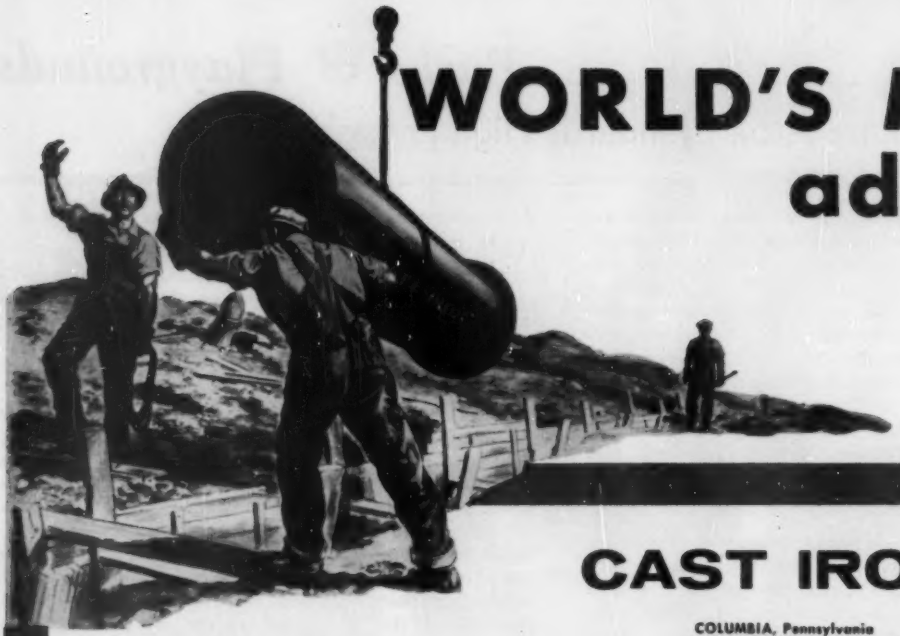
4. Correct amounts of water. More and more turf experts now agree that special irrigation systems (such as underground piping systems) are needed to guarantee proper applications of water at the time and places needed.

5. Uniform soil. A soil that is uniform and deep in its uniformity is important. A marbleized soil—one that contains layers of different soil types—inhibits good turf development since the different layers interfere with proper water movement.

6. A favorable soil reaction to the particular grass type. This can be attained through the use of fertilizers geared to supplement or offset the natural soil qualities in order to supply the grass with its "food" needs.

7. Protection for the turf. Grasses can be injured easily by bugs and grubs, by dessication, by disease and by mechanical injury. Attention must be given to protecting from this problem.

8. Management. Management in the timing and coordination of the application of all these ingredients is a key to the process of developing good turf. The emphasis should be on the MAN in management.



WORLD'S MOST adds 20

CAST IRON PIPE

*ADRIAN, Michigan
Citizens Gas Fuel Company
ALBANY, New York
Dept. of Water and Water Supply
ALBANY, New York
Niagara Mohawk Power Corp. (Gas)
ALEXANDRIA, Virginia
Alexandria Water Company
ALLENTOWN, Pennsylvania
Bureau of Water
*ALTON, Illinois
Union Electric Company, Gas Division
ATLANTA, Georgia
Atlanta Gas Light Company
BALTIMORE, Maryland
Bureau of Water, Dept. of Public Works
BALTIMORE, Maryland
Baltimore Gas and Electric Company
*BANGOR, Maine
Citizens Utilities Company, Gas District
*BETHLEHEM, Pennsylvania
The United Gas Improvement Company
BOSTON, Massachusetts
Public Works Dept., Water Division
BOSTON, Massachusetts
Boston Consolidated Gas Co.
BOUND BROOK, New Jersey
Public Service Electric & Gas Co.
BRIDGEPORT, Connecticut
Bridgeport Gas Light Company
BUFFALO, New York
Dept. of Public Works, Div. of Water
*CAMBRIDGE, Massachusetts
Cambridge Water Board
*CARLISLE, Pennsylvania
The United Gas Improvement Co., Gas Division
*CATASAUQUA, Pennsylvania
The United Gas Improvement Company
*CHAMBERSBURG, Pennsylvania
Borough of Chambersburg, Gas Department
CHARLESTON, South Carolina
South Carolina Electric & Gas Co.
CHICAGO, Illinois
Peoples Gas Light & Coke Company
CHICAGO, Illinois
Water Works Department
CINCINNATI, Ohio
Cincinnati Gas & Electric Co.
COLUMBIA, Pennsylvania
Columbia Water Company
DETROIT, Michigan
Board of Water Commissioners
DETROIT, Michigan
Michigan Consolidated Gas Co.
ELIZABETH, New Jersey
Elizabethtown Consolidated Gas Co.
EVANSVILLE, Indiana
Southern Indiana Gas & Electric Co.
FALL RIVER, Massachusetts
Fall River Gas Works Company
FREDERICK, Maryland
City of Frederick Water Dept.
FREDERICK, Maryland
Frederick Gas Company, Inc.
CITY OF FREDERICKSBURG, Virginia
Gas Department
*HAGERSTOWN, Maryland
Hagerstown Gas Company
HALIFAX, Nova Scotia
Public Serv. Co., Public Water Supply
*HARRISBURG, Pennsylvania
The United Gas Improvement Co., Harrisburg Gas Div.
HARTFORD, Connecticut
The Hartford Gas Company
HARTFORD, Connecticut
Water Bureau, Metropolitan District
HUNTSVILLE, Alabama
Municipal Water Works
INDIANAPOLIS, Indiana
Citizens Gas & Coke Utility
KNOXVILLE, Tennessee
Knoxville Utilities Board (Gas)
*LAMBERTVILLE, New Jersey
City Gas Company
LANCASTER, Pennsylvania
Bureau of Water
LOUISVILLE, Kentucky
Louisville Gas & Electric Co.
LYNCHBURG, Virginia
City of Lynchburg Water Dept.
MADISON, Indiana
Natural Gas Service, Inc.
MEDIA, Pennsylvania
Philadelphia Electric Company Gas Dept.
MINERSVILLE, Pennsylvania
Municipal Authority, Borough of Minersville
MOBILE, Alabama
Mobile Gas Service Corp.

CAST IRON PIPE

UNUSUAL CLUB new members

The Cast Iron Pipe Century Club . . . Membership in this distinguished Club is restricted to water and gas supply systems still serving their communities through cast iron mains laid a hundred years ago . . . and more!

The Club's unique Honorary Certificate is earned only through performance. It is a tribute to the service supplied by these companies and to the carrier that enabled them to earn it . . . world's most dependable pipe . . . cast iron!

CENTURY CLUB

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Mobile Water Works Company
MONTREAL, Quebec
Quebec Hydro-Electric Commission
MONTREAL, Quebec
Public Works Dept., Water-Works & Sewerage Division
***MOUNT HOLLY, New Jersey**
The Mount Holly Water Company
***NANTUCKET, Massachusetts**
Nantucket Gas & Electric Company
NASHUA, New Hampshire
Pennichuck Water Works
NASHVILLE, Tennessee
Waterworks Department
NEW BRUNSWICK, New Jersey
Public Service Electric & Gas Co.
***NEWBURGH, New York**
Water Department
NEW HAVEN, Connecticut
New Haven Gas Company
NEW ORLEANS, Louisiana
New Orleans Public Service Inc. (Gas)
NEWARK, New Jersey
Public Service Electric & Gas Co.
***NEW YORK, New York**
Consolidated Edison Company of N. Y., Inc., Gas Div.
NEW YORK, New York
Dept. of Water, Gas & Electricity
NORRISTOWN, Pennsylvania
Philadelphia Electric Co., Gas Dept.
***NORWICH, Connecticut**
Department of Public Works, Gas Division
***OTTAWA, Ontario**
Ottawa Gas
PAINESVILLE, Ohio
City of Painesville, Gas Distribution Dept.
PEORIA, Illinois
Central Illinois Light Company
PHILADELPHIA, Pennsylvania
Dept. of Public Works, Bureau of Water
PHILADELPHIA, Pennsylvania
Philadelphia Gas Works Co.
PITTSBURGH, Pennsylvania
Bureau of Water, Dept. of Public Works
PLYMOUTH, Massachusetts
Plymouth Gas Light Company
POTTSVILLE, Pennsylvania
Pottsville Water Company
***POUGHKEEPSIE, New York**
Central Hudson Gas & Electric Corporation, Gas Division
PROVIDENCE, Rhode Island
Providence Gas Company
QUEBEC, Quebec
Quebec Power Co., Gas Division
READING, Pennsylvania
Bureau of Water
RICHMOND, Virginia
Department of Public Utilities (Gas)
RICHMOND, Virginia
Dept. of Public Utilities (Water)
ROCHESTER, New York
Rochester Gas & Electric Corp.
SACRAMENTO, California
Division of Water & Sewers
ST. JOHN, New Brunswick
Water & Sewerage Department
ST. LOUIS, Missouri
Dept. of Public Utilities, Water Div.
SALEM, Massachusetts
North Shore Gas Company
***SANDUSKY, Ohio**
The Ohio Fuel Gas Company
SAVANNAH, Georgia
South Atlantic Gas Company
SPRINGFIELD, Illinois
Central Illinois Light Company
SYRACUSE, New York
Water Div., Dept. of Engineering
TORONTO, Ontario
The Consumer's Gas Co. of Toronto
TROY, New York
Department of Public Works
UTICA, New York
City of Utica, Board of Water Supply
***WASHINGTON, D. C.**
Washington Gas Light Company
WHEELING, West Virginia
City of Wheeling Water Department
WILLIAMSPORT, Pennsylvania
Williamsport Municipal Water Authority
WILMINGTON, Delaware
Wilmington Water Department
WINCHESTER, Virginia
Water Department
WINSTON-SALEM, North Carolina
Water Department
YORK, Pennsylvania
York Water Company
ZANESVILLE, Ohio
Water Department

*New members in 1957

RESEARCH ASSOCIATION

THOMAS F. WOLFE, MANAGING DIRECTOR

CAST IRON

SUITE 3440, PRUDENTIAL PLAZA, CHICAGO 1, ILLINOIS

Two New High-Capacity Asphalt Plants Announced by Barber-Greene

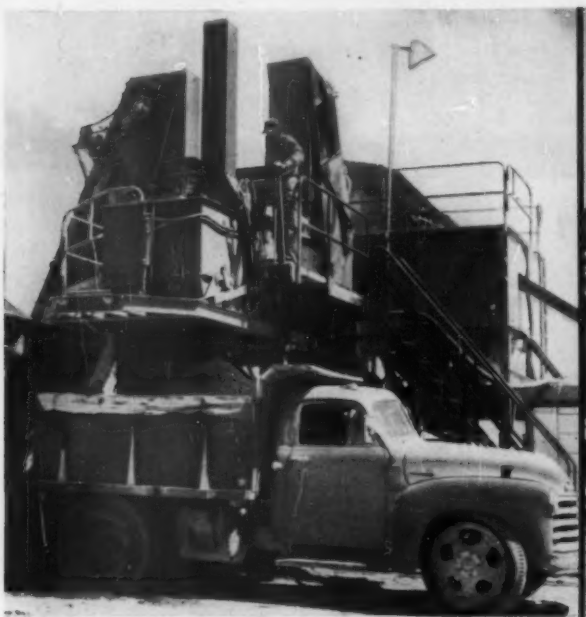
These two new continuous asphalt plants give greater versatility than ever before available. The same mixer, without alteration, may be used with any combination of plant components to produce all types of mixes—from the simplest cold mixes to the highest types which must meet the most rigid specifications. Model 847 is for high capacity. Model 848-A is for extra high capacity.

It is only necessary to transport and operate the components required for the job:

For cold mixes: Mixer + calibrated feeder

For intermediate hot mixes: Mixer + calibrated feeder + dryer

For high-type mixes: Mixer + gradation unit + dryer



Plant with four-bin gradation unit for production of highest type mixes. This multiple-aggregate plant is available in both sizes.

Cold-mix plant, available in both sizes, consists of mixer and calibrated feeder. Dryer and gradation unit may be added later.

Both models offer these advantages:

- Unequaled versatility as described above.
- New hydraulic clamshell discharge gate saves truck time, prevents segregation.
- Transfer pump assures constant head of asphalt for metering pump, eliminates need for asphalt storage tank on mixer.
- Interlocked aggregate and asphalt feeds assure constant, correct proportioning.
- Truck pit no longer required.
- Highly portable plant components allow fast travel between jobs, pay off in more days of operation per season.
- Erection is merely a matter of spotting the units at the plant site and dropping the jacklegs.
- New, easier calibration of single-aggregate and cold-mix plants.

57-12-A

Write for information on these two new flexible high-capacity asphalt plants.

Barber-Greene BG

AURORA, ILLINOIS, U.S.A.

CONVEYORS . . . LOADERS . . . DITCHERS . . . ASPHALT PAVING EQUIPMENT

Sewerage & Sewage Purification

Old-Fashioned Barbecue Marks Sewage-Treatment Plant Dedication

MARIETTA, Ga., dedicated its fourth sewage-treatment plant in true Southern style with an old-fashioned barbecue instead of champagne and ribbons. The new 2.0-mgd plant went into operation immediately after the ceremony and festivities, relieving a 1.0-mgd plant of part of its load.

Mayor C. W. Bramlett, Chairman of the city's Board of Lights and Water Works, led a delegation of over 100 officials through the plant. Because of limited parking facilities at the plant, buses transported visitors from fire department headquarters to the sewage-treatment plant.

The facilities provide complete treatment by primary sedimentation, filtration, final clarification and separate sludge digestion. (See THE AMERICAN CITY, June 1957, page 148). The plant was designed and built to handle sewage flows from an ultimate population of 20,000 persons.

Film Illustrates Causes of Backsiphonage and Cross Connections

THE Public Health Service, Department of Health, Education, and Welfare has come out with a new film illustrating the public health significance of backsiphonage and cross connections. These two defects found in plumbing systems are both potential sources of waterborne disease epidemics.

The film shows how to identify the basic causes and the methods of prevention and also contains a survey of the major situation in which backsiphonage and cross connections occur. The 11-minute, 75-frame filmstrip is of the 35 mm type in both color and sound and has been cleared for television.

The film may be had on short-term loan from the Chief, Communicable Disease Center, Public Health Service, Department of Health, Education, and Welfare, P. O. Box 185, Chamblee, Ga., or may be purchased from United World Films, Inc., 1445 Park Ave., New York 29, N. Y.

Fringe Area Water and Sewer Facilities in Tennessee

IN preparation for the 1957 edition of "Sanitary Service Charges in Tennessee," the State Planning Commission conducted a survey among the cities within the state concerning the extension of sanitary facilities outside their corporate limits. Specific questions were posed to 256 cities and responses received from 197. Of special note is the fact that about 45% of the answering cities indicated that costs of these extensions were paid either wholly or partially by the subdivider or customer. Following are some of the questions and the answers:

1. Does your city provide water and sewer facilities to developments outside the city limits?

Answers: No service outside city limits—76 cities (39%)
Provide both water and sewer outside limits—76 cities (39%)
Provide water only—30 cities (15%)
No response—15 cities (7%)

2. If your city provides water and sewer facilities outside the city limits, is a general policy set up by city ordinance, or is this matter handled by the subdivider through special negotiations with your city council?

Answers: General policy established by ordinance—39 cities (20%)
Special negotiations—51 cities (26%)
No response—107 cities (54%)

3. If your city provides water and sewer facilities outside the city limits, how are the costs for providing these facilities allocated?

Answers: Paid by city—15 cities (8%)
Paid by subdivider—35 cities (18%)
Paid by individual customers—44 cities (22%)
Paid jointly by city and subdivider—1 city (.5%)
Paid jointly by subdivider and customer—6 cities (3%)
Paid jointly by city and customer—3 cities (1.5%)
No response—93 cities (47%)

4. If your city provides water and sewer facilities outside the city limits, who assumes ownership and maintenance responsibility of the water mains and sewer lines?

Answers: Responsibility of the city—79 cities (40%)
Responsibility of the subdivider—15 cities (8%)
Responsibility of the customer—6 cities (3%)
No response—97 cities (49%)

5. If your city provides water and sewer facilities outside the city limits, are the rates charged the same as those charged inside the city or are they higher?

Answers: Rates same as inside city—31 cities (16%)
Rates higher than inside city—71 cities (36%)
No response—95 cities (48%)

6. If your city has subdivision regulations, do they apply outside the city limits?

Answers: City has no subdivision regulations—92 cities (47%)
Subdivision regulations do not apply outside city limits—37 cities (19%)
Subdivision regulations do apply outside city limits—21 cities (10%)
No response—47 cities (24%)

NEW SQUAD CAR
but not a new radio

"Our Motorola 2-way radio has outlasted several squad fleet changes"

The rugged construction and dependable long life of Motorola 2-way radio is a fact. Police officials know from experience that Motorola 2-way radio with its many exclusive patented features is built to keep on working for years . . . long after other types of equipment give way to the need for replacement. No wonder Motorola 2-way radio is specified by more police departments than all other types combined.

Here's Why Motorola is Better

OBSOLESCENCE-FREE DESIGN—Years-ahead design protects you from costly conversion changes. For example, with today's Motorola radio you have no 6 to 12 volt changeover problems, regardless of the cars you have now or will have in the future.

RELIABILITY—Top quality parts and workmanship give you communications you can depend on . . . always. Facts prove that Motorola delivers top performance at lowest maintenance costs year after year. It's your best long-range investment.

LONG SERVICE—While ordinary systems using fewer tubes are being overworked, Motorola provides reserve gain to take the toughest jobs in stride . . . even years from now.

Here's 2-way radio you know you can depend on. Specify Motorola.

MOTOROLA 2-WAY POLICE RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC • A Subsidiary of Motorola, Inc. • 4501 Augusta Blvd. • Chicago 51, Illinois

Arctic Village Buys a Fire Truck

"Flying Fire Truck"—a Mack Trucks of Canada, Ltd., fire truck, is being loaded aboard a transport plane for delivery to Yellowknife, Northwest Territories, Canada.

WHEN the residents of Yellowknife (population 3,000), decided last summer to buy a fire truck, the challenge was how to deliver it. Yellowknife is located on the shore of Great Slave Lake in Yellowknife Bay, on the rim of the arctic, 685 miles north of Edmonton, Alberta. It can be reached by boat in the summer, and only by air in the winter, when the temperature averages 65 degrees below zero and the lake freezes to a depth of six feet.

Yellowknife officials decided to have the fire truck driven from Montreal, where it was purchased from Mack Trucks of Canada, Ltd., to Hay River, at the edge of Great Slave Lake. From there, it was planned to load it aboard a ferryboat and transport it by water.

But after the 3,500-mile trip from Montreal to the lake, it was found that an early freeze had made the ferry journey impossible. The lake at some points was already frozen to a depth of one foot. Unwilling to let the fire truck sit at the lake edge until the spring thaw, Yellowknife officials had the 13,000-pound vehicle loaded in a transport plane and flown the remaining 200 air miles to Yellowknife. The big 6½-ton vehicle, capable of pumping 750 gallons of water per minute, was more than 24 feet long and almost 8 feet high.

By removing the siren and side steps, the wheels, rear fenders, overhead ladder brackets, suction hose brackets and troughs and axe brackets, the pumper was "squeezed" aboard a twin-engine Bristol transport plane.

Port Arthur, Texas, Buys Mobile Communication Unit

WHEN tropical hurricane Audrey missed Port Arthur, Texas, and hit Cameron, La., the police chief and fire chief from Port Arthur sent men to help reset communications.

When the men returned, the chiefs called a meeting on relief work with the City Manager, the Mayor and the City Commission. It was decided that Port Arthur needed an emergency communications system.

Police Chief G. B. Douglas and Fire Chief Eugene Ray decided on a communication trailer. Plans were approved by City Manager Charles Brazil.

The City of Port Arthur purchased a Sparton House Trailer, 27 feet long and 8 feet wide. The front has space for the chiefs to direct operations. The rear of the trailer is the communications center, with radio for the Fire, Police, Street, and Bridge departments and for the Jefferson County Civil Defense Headquarters disaster network. Six antennas are mounted on top of the trailer for the various frequencies. This trailer will be towed by a GMC pickup truck with a 5-kw power plant, gasoline tank and four floodlights mounted on top of the truck.

The mobile communications unit received its first emergency workout at Groves, Texas, on November 7, 1957, when Groves was struck by a tornado. It remained on duty until 12 p.m. November 9.

The City of Port Arthur also purchased eight 1,500-watt gas-driven power plants, 110-volt a.c., and eight 25-watt mobile radio units to be used on the Civil Defense disaster network.

Informative Catalogs - Yours For The Asking!

These catalogs contain information of great value to public officials and engineers. Write directly to the manufacturers, or use the Post Card on the insert following Page 50.

Bituminous Distributor

151 Street construction and repair work is faster, easier and less expensive with this new budget priced bituminous distributor. The efficient Thriftline is a practical, easy-to-operate unit with an "easy-flo" piping system, high operator platform, heated engine and pump housing and fire-proof burner boxes. It comes, truck mounted, in 1,000, 1,250 and 1,500-gallon tank capacities. For *Catalog T-100*, write MUNICIPAL SUPPLY CO., 2514 S. MAIN ST., SOUTH BEND 23, IND.

New, Tight Joint for Cast Iron Pipe

152 A new double-sealing joint said to speed and simplify the installation of cast iron water pipe is described in this new booklet. Called Fastite, it is a single gasket type joint which has been tested successfully on numerous field installations. Get the full story from AMERICAN CAST IRON PIPE CO., BIRMINGHAM 2, ALA.

Converts Empty Drums into Waste Receptacles

153 A Bennett drum top will convert any 50-gallon drum into a self-closing waste receptacle. The top is 24 inches in diameter, and features special "hold down" clamps. It is described along with self-closing and drop-in waste receptacles, paper towel dispensers, and garbage can enclosures, in literature from BENNETT MFG. CO., INC., ALDEN, N. Y.

Diaphragm Pump

154 All those tough, dewatering jobs are faster and easier when they're done with a Homelite diaphragm pump. The pump handles water thick with mud, sand, clay or gravel freely; pumps 5,000 gph. It starts instantly, primes fast, and is easy on fuel. For full details on the 120-pound unit, write HOMELITE, 111 RIVERDALE AVE., PORT CHESTER, N. Y.

Better Sludge Disposal

155 With the C-E Raymond flash drying system you get controlled drying, efficient sludge incineration, and high temperature deodorization. For detailed information on this efficient system for sludge disposal, and how it can benefit your community, write COMBUSTION ENGINEERING, RAYMOND DIV., 1315 N. BRANCH ST., CHICAGO 22, ILL.

Dependable Power When You Need It

156 *Bulletin S-212* covers the full line of Wisconsin engine-powered equipment, 3 to 56 hp, designed for dependable, full-time oneration. Get your copy from the WISCONSIN MOTOR CORP., MILWAUKEE 46, WIS.

Municipal Lighting Cables

157 Detailed information on street lighting cables, series lighting cables, pole and bracket cables and sparkway cables for multiple circuits, is contained in this new, 8-page Ansonia catalog. Copies are available from THE ANSONIA WIRE & CABLE CO., ASHTON 9, R. I.

Fast Way to Install Curbs and Gutters

158 BLAW-KNOX CO., CONSTRUCTION EQUIPMENT DIV., 30 CHARLESTON AVE., MATTOON, ILL., offers a standardized, interchangeable steel form system for a variety of curb and gutter operations. These Universal Forms are lightweight, sturdy, and easy to set and strip. Write for details.

Longer Wearing Signs and Posts

159 Signs and sign posts constructed of long wearing aluminum are easy to erect and inexpensive to maintain. The easy-to-read directional and informational signs won't rust or corrode. "Scotchlite" reflective sheeting is said to adhere better and longer. For a new handbook on *Aluminum Traffic-Control Devices*, write ALUMINUM COMPANY OF AMERICA, 1680-M ALCOA BLDG., PITTSBURGH 19, PA.

New Cost-Cutting Type of Activated Sludge

160 If you're interested in building the high degree of purification of activated sludge into your sewage treatment plant, remember the term Hi-Cone. Hi-Cone eliminates the annoyance of foaming and other difficulties associated with conventional treatment. It purifies sewage at low cost. For full details, write YEOMANS, 2000-3 N. RUBY ST., MELROSE PARK, ILL.

Power Buggy Speeds Concrete Handling

161 *Catalog No. 5* from CREATIVE METALS CORP. describes the CMETCO power buggy, a heavily-powered unit designed for the fast, efficient handling of concrete. Also discussed are Rola Pavers, tampers and concrete finishing equipment. For your copy, write the company at 1290 POWELL ST., EMERYVILLE, CALIF.

Valveless Water Filter

162 Permutit's valveless filter is designed to produce uniform, high-quality water at low cost. The design of this filter prevents excessive use of water for backwashing or rinsing. Maintenance costs are kept at a minimum. Single valveless filters or multiple units for any volume requirement are available. Write THE PERMUTIT CO., DEPT. AC-11, 330 W. 42nd ST., NEW YORK 36, N. Y.

Handles Every Rolling Job

163 From the start to the finish of a street or road construction job, there is a size or type of Gallon roller for every compaction requirement. Models are available for compacting a tremendous fill, an ordinary sub-base, miles of smooth finished surface, or a simple maintenance patching job. Write THE GALION IRON WORKS & MFG. CO., GALION, OHIO.

Loader-Backhoe Does More Jobs Faster

164 Cities can mount the efficient Davis loader-backhoe on almost any popular make tractor. The unit offers maximum visibility, and requires minimum maintenance. With the popular 210 backhoe you can dig flush alongside a building, wall or fence. Get full details from MASSEY-HARRIS-FERGUSON, INC., INDUSTRIAL DIVISION, DEPT. A, 1009 S. WEST ST., WICHITA 15, KANS.

Flouride Your City's Water Supply

165 Detailed information on the many advantages of using Sodium Silicofluoride to fluoridate your city's water supply are discussed in literature from TENNESSEE CORP., 1028 CONNECTICUT AVE., N. W. WASHINGTON 6, D. C.

Filters for Municipal Swimming Pools

166 How to get and maintain crystal clear water in public swimming pools, is discussed in *Bulletin* 626. It contains typical installations, cross-section and operational drawings of Adams' filters. Also size selection charts and comparison with other type filters. Write R. P. ADAMS CO., INC., 332 EAST PARK DRIVE, BUFFALO 17, N. Y.

Efficient Refuse Trucks

167 This 8-page booklet describes the M-B line of refuse and garbage packer bodies of 12 to 24 cubic yards. Progressive compaction, enclosed drive, and other simple design features give the M-B Packer great efficiency. For a copy of the new booklet, write M-B CORP., 1612 WISCONSIN AVE., NEW HOLSTEIN, WIS.

These Tractors Offer Easier Handling

168 Cities can choose an efficient tractor from either Ford's economical Workmaster series or its husky Powermaster series. All Ford tractors are designed with power steering for easier handling. They are available in gasoline or LP-gas models. Write INDUSTRIAL DEPT., TRACTOR & IMPLEMENT DIV., FORD MOTOR CO., BIRMINGHAM, MICH.

Pipe Coupling Adapters

169 A fast, easy way to connect all types of flanged fittings and plain-end pipe —any type or size—is with Smith-Blair flanged coupling adapters. With these adapters you don't have to cut pipe to exact lengths. Also eliminated are pipe threading operations and the need for flanged spacers and other fittings. Get full details from SMITH-BLAIR, INC., P. O. BOX 666, SOUTH SAN FRANCISCO, CALIF.

Corporation Stops

170 Hays corporation stops are made of quality water service bronze. They can be installed with any standard tapping machine. Plugs are individually ground for perfect fit. Get full details from HAYS MFG. CO., ERIE, PA.

(Please turn to page 36 for more Bulletins)

Where service begins-LAYNE

Completely equipped work crews handle water well and pump servicing — backed by over 75 years of field experience.

A telephone call brings action—for the service facilities, know-how and experienced work crews of your nearby Layne Associate Company.

Layne service is based upon undivided responsibility throughout every phase of every water development job, from initial surveys and construction, to operation and maintenance.

For service before, during and after well construction, look to Layne and your nearby Layne Associate Company, a member of the community it serves.

LAYNE & BOWLER, INC. MEMPHIS

General Office and Factory — Memphis 8, Tenn.

Layne Associate Companies throughout the world.

Water Wells • Vertical Turbine Pumps • Water Treatment

LAYNE & BOWLER, INC.
Memphis 8, Tennessee

Gentlemen:

Please send me Bulletin No. 100

*Name*_____

*Title*_____

*Organization*_____

_____

*Address*_____

*City*_____ *State*_____

FORD makes the

3 all-new Super Duty V-8's

- Gross horsepower up to 277
- Gross torque up to 490 lbs-ft
- Modern Short Stroke design
- Three-stage cooling system
- Machined combustion chambers
- Sodium-cooled exhaust valves
- Stress-relieved block and heads
- Pyramid-type connecting rods
- Internally mounted oil cooler
- Two-quart oil filter
- Water-jacketed intake manifold
- Submerged-type electric fuel pump

277-hp Short Stroke V-8
Torque: 490 lbs-ft
@ 1800-2300 rpm

260-hp Short Stroke V-8
Torque: 430 lbs-ft
@ 1800-2300 rpm

226-hp Short Stroke V-8
Torque: 350 lbs-ft
@ 1800-2300 rpm

10 all-new Extra Heavy Duty Series

GVW's up to 51,000 lb. For '58, ten new basic series are added to Ford's already extensive Heavy and Extra Heavy Duty line. Four new Tilt Cabs, four new Conventionals, and two new Tandem models offer GVW ratings up to 51,000 lb.

GCW's up to 75,000 lb. New T-950 Tandem is rated for 75,000-lb. GCW. Biggest single-rear-axle models are rated for 65,000-lb. GCW.

Front axle capacities up to 15,000 lb. Choice of three front axles in most new Ford Extra Heavies. Rated capacities of 9,000 lb., 11,000 lb. and 15,000 lb.

Rear axle capacities up to 29,000 lb. Wide choice of rear axles includes single-speed and two-speed, single reduction and double reduction types. Capacities range from 18,000 lb. to 29,000 lb.

Bogie axle capacities up to 38,000 lb. For '58 there are two new Extra Heavy Duty Tandem Axle models. The new T-950 Series features a tandem rear axle assembly rated for 38,000 lb. New T-850 Series offers choice of 28,000- or 34,000-lb. bogies.

New highway transmissions. Roadranger transmission is available in all ten new Ford Heavies and Extra Heavies. Up to 33% less shifting. "Short Fourth" highway transmissions also available on "F" and "C" Series. With these new transmissions, engines operate in peak horsepower range with greater fuel economy.

big move for '58

–up to 534 cu. in.

New Series T-950 Tandem model is biggest capacity Ford truck ever built! Rated up to 51,000-lb. GVW—75,000-lb. GCW. New 534-cu. in. Super Duty V-8 provides exceptional horsepower and torque with rugged durability.

FORD TRUCKS COST LESS

LESS TO OWN . . . LESS TO RUN . . . LAST LONGER, TOO!

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Pumps Large Volumes of Water

171 Designed for large scale primary water supply and power plant condenser circulating systems, these axial and mixed flow vertical and horizontal pumps will pump large volumes of liquids at low to medium heads. Capacities range from 5,000 to 200,000 gpm and over; heads from five feet to 75 feet. Get *Catalog G-100* from ECONOMY PUMP DIV., C. H. WHEELER MFG. CO., 19th and LEHIGH AVE., PHILADELPHIA 32, PA.

Efficient Tractor-Shovel

172 Your Payloader tractor shovel will travel and work anywhere, performing general maintenance and construction work on streets, driveways and sidewalks. In winter months, it removes snow, and loads out sand, cinders and salt products for ice control. Get the full story from THE FRANK G. HOUGH CO., 710 SUNNYSIDE AVE., LIBERTYVILLE, ILL.

This Traffic Paint Dries Quickly

173 Centerlines made of a Parlon-based paint dry faster and wear longer. Formulations based on Parlon chlorinated rubber are designed to save your street department time and money. For complete information, write HERCULES POWDER CO., 9000 MARKET ST., WILMINGTON 99, DEL.

NEW *Flexible*

QUICK REVERSE POWER DRIVE

works sewer stoppages faster

Just shift the Safety Lever and rotation of rods and tool is instantly reversed. When lodged in hard stoppages, a shift to reverse quickly corkscrews the tool out of the stoppage. In boring through sand, silt, etc., the tool tends to "burrow" and an occasional reverse brings it to the top where the going is much easier. Besides speeding up the job, this new *"Flexible"* development reduces wear and tear on the rods as well as the machine and operator.

WRITE TO ARRANGE FREE ON-THE-JOB DEMONSTRATION

FLEXIBLE INC.

1005 SPENCERVILLE ROAD, LIMA, OHIO
3786 DURANGO AVE., LOS ANGELES 34, CALIF.
351 W. JEFFERSON BLVD., DALLAS, TEXAS

Park Maintenance Simplified

174 A rotary mower for mounting under the International Harvester Cub, Model 59C, and a similar mower, Model 59CL, for mounting under the International Harvester Cub Lo-Boy, are introduced by WOOD BROTHERS MFG. CO., OREGON, ILL. Each mows a 5-foot swath utilizing three staggered blades for a clean cut. Side skids prevent scalping. Write for details.

Check Valves for Sewage Lines

175 Golden-Anderson's rubber-lined cushioned check valves can be used in sewage lines for pump check service as well as to prevent reverse flow. Specifications, general dimensions and a parts lists are contained in *Bulletin W-11*. For your copy, write GOLDEN-ANDERSON VALVE SPECIALTY CO., 1200 RIDGE AVE., PITTSBURGH 33, PA.

Does Asphalt Make Better Streets?

176 To get the full story look at the record, in this case the congressional record as presented in a new brochure from THE ASPHALT INSTITUTE, UNIVERSITY OF MARYLAND, COLLEGE PARK, MD. According to the Institute, "The initial construction economy of an asphalt pavement is unchallenged—and it costs no more to maintain."

Traffic Signs Embedded in Pavement

177 Easily and permanently bonded to the street surface, these brightly colored plastic mats are highly reflective and provide long wear—even under the heaviest traffic conditions. For full information on Nefmats, plastic traffic signs, and Nefslabs, plastic markers, strips and arrows, write J. W. NEFF LABORATORIES, INC., STOCKERTOWN 10, PA.

Makes Refuse Collection Fast, Easy, Economical

178 *Bulletin* 37 on "How to Cut the Cost of Refuse Collection" discusses the efficient, economical Roto Pac. This easy-to-load collection body offers automatic, continuous loading and compaction. Maintenance costs are kept at a minimum. Write CITY TANK CORP., 53-09 97th PL., CORONA, N. Y.

Fire-Fighting Equipment

179 An informative 100-page catalog on fire equipment is available from W. S. DARLEY & CO., CHICAGO 12, ILL. Write for *Catalog No. 157*, specifying your title on your request.

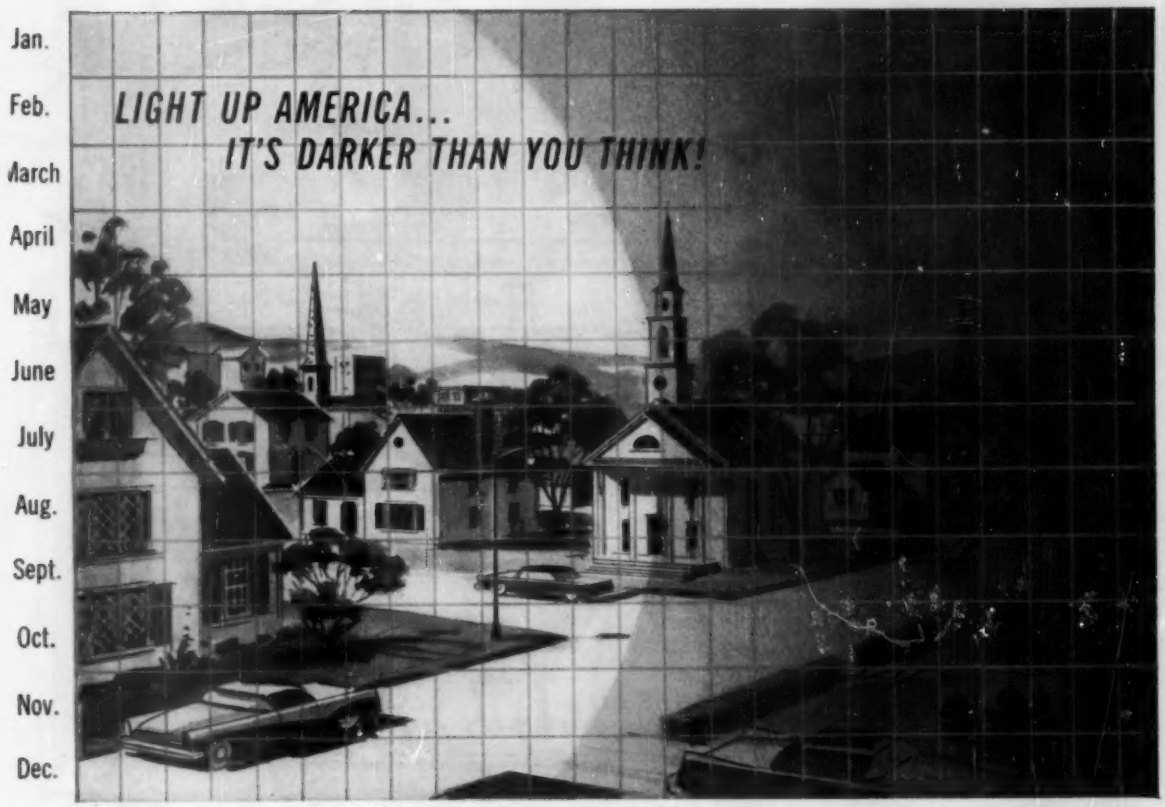
Steel Swimming Pools

180 A leak-proof swimming pool that requires minimum maintenance is offered by KOVEN STEEL SWIMMING POOLS, INC., 94 E. DICKERSON ST., DOVER, N. J. These steel structures are available in both indoor and outdoor models. Write for literature.

Fabrics for Police, Firemen's Uniforms

181 Equip policemen, firemen and other municipal employees with uniforms made of sturdy Franklin fabrics. The company offers 373 100% worsted serges and other worsted and dacron blends. Write David E. Singer, sales agent, FRANKLIN WORSTED CO., 40 E. 34th ST., NEW YORK 16, N. Y.

(See page 40 for more Bulletins)



How does your town plan to combat darkness?

In five out of six communities, shopping and residential streets which are pleasant and inviting in the daytime become dark and unattractive when night falls. "Horse and buggy" lighting cuts down the hours of business, reduces social activity, keeps away visitors, and sets the stage for juvenile delinquency, crime, and accidents.

That's why hundreds of civic leaders across the nation are sponsoring good lighting in their towns. Adequate street lighting has already proved that its benefits far outweigh its moderate cost. Brightly lighted shopping streets act as a magnet, pulling buyers from miles around. Community life is quickened when streets are safe for pedestrians and drivers. Crime is reduced. Nighttime accidents are fewer.

People know that the well-lighted town is a progressive town—a good place to live and to establish business and industry. Why not find out how much good lighting can do for your community?

"Out of Darkness," a new, dramatic film story of how one community met its street-lighting problems, is now available to civic groups, community service organizations, etc. This 16-mm, sound, black-and-white movie runs 26 minutes. Borrow a print of "Out of Darkness" from your nearest G-E Apparatus Sales Office.

Section P455-12
Outdoor Lighting Department,
General Electric Company, Schenectady 5, N. Y.

Please send me a free copy of the 24-page bulletin, "Light the Way to a Better Community," GEA-6047.

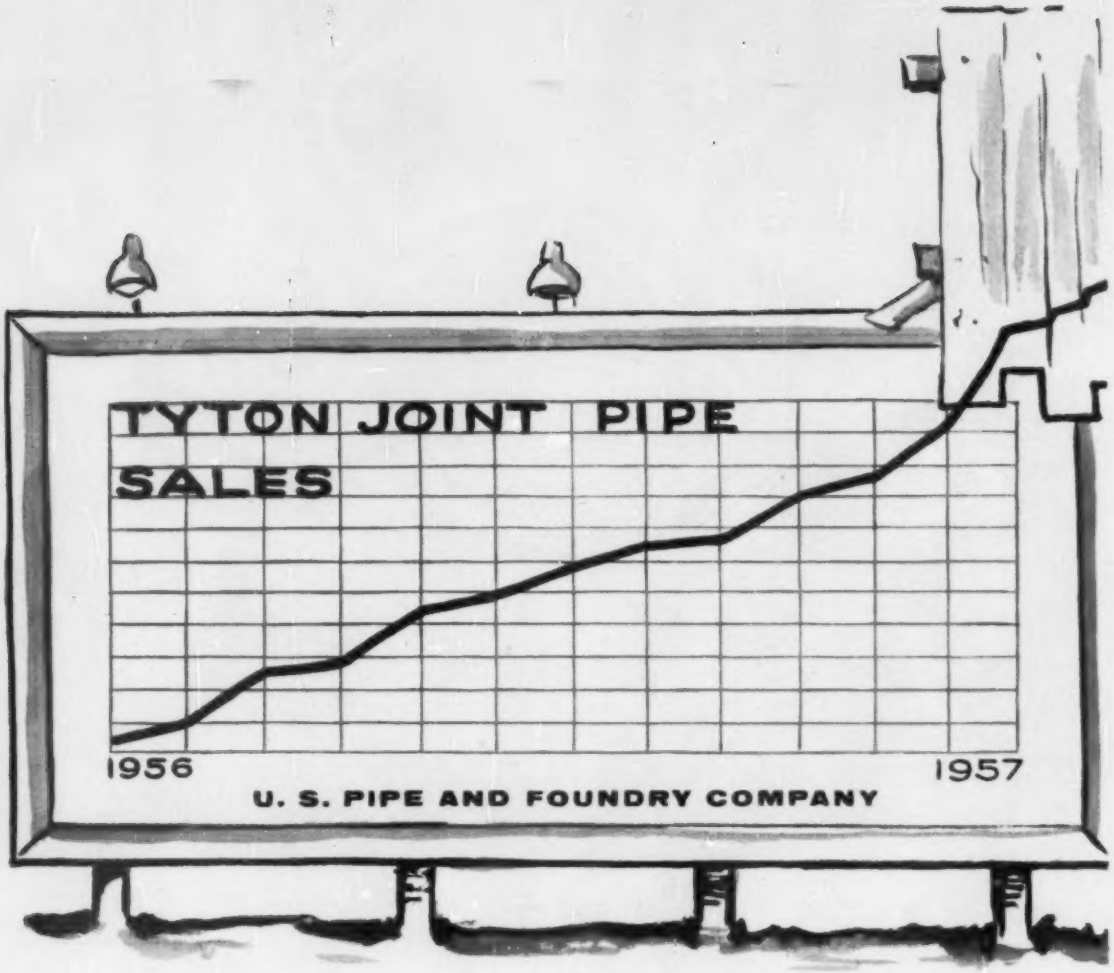
Name_____

Street_____

City and State_____

Progress Is Our Most Important Product

GENERAL ELECTRIC



makes friends

Tyton Joint® pipe was introduced a little over a year ago. Since then its acceptance and performance have been phenomenal.

And no wonder. Tyton Joint delivers everything a pipe user needs... and then some. It's easy to assemble—even a green crew gets the hang of it in no time.

Only one accessory needed... a specially designed rubber gasket that seats into the bell. When the entering pipe slides in, the gasket is compressed to give you a

TYTON U.S. cast iron PIPE FOR WATER, SEWERAGE AND

everywhere

permanent, bottle-tight seal. No bell holes. No caulking equipment needed. No nuts or bolts to fasten.
No worry about weather, either. You can lay Tyton Joint pipe in rain or wet trench.
Like to know more about "Tyton," the ingenious pipe joint that cuts costs, saves time, sidesteps trouble? Call or write today.

U. S. PIPE AND FOUNDRY COMPANY
General Office: Birmingham 2, Alabama

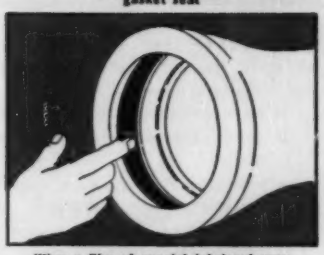
A WHOLLY INTEGRATED PRODUCER FROM MINES AND BLAST FURNACES TO FINISHED PIPE

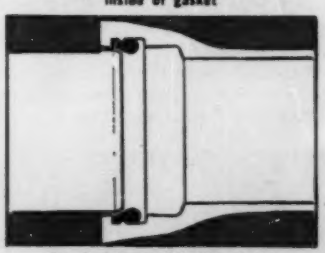
INDUSTRIAL SERVICE CAST IRON

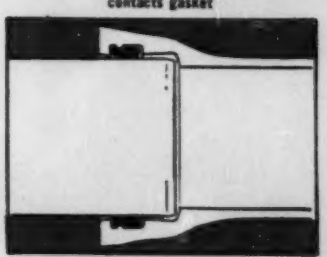
TYTON

ONLY FOUR SIMPLE ACTIONS

Insert gasket with groove over bead in gasket seat


Wipe a film of special lubricant over inside of gasket


Insert plain end of pipe until it contacts gasket


Force plain end to bottom of socket . . . the job's done!

20" Tyton Joint pipe being installed for water supply line in Alabama.

WHY ASPLUNDH IS Your Best Buy IN CHIPPERS!

ASPLUNDH CHIPPERS can cut your hauling costs as much as 75%; will completely eliminate brush burning, and provide a valuable and useful by-product.

Here's how you benefit—

- **positive-locking tapered blades and wedges assure absolute safety**
- **especially designed power unit gives you faster, more uniform chipping action**
- **enlarged feeding area handles bulky brush faster; chips material as large as 6" in diameter**
- **overall simplicity of design, fewer moving parts lowers maintenance and repair costs**
- **built-in custom tool compartment protects servicing equipment**
- **underslung engine and axle lowers center of gravity, gives superior tracking**

Only ASPLUNDH CHIPPERS have been engineered, developed and proven by the largest tree company in the world. *They are safer, faster, more economical to operate than any other chipper made.*

ASPLUNDH CHIPPER COMPANY DEPT. C2
505 York Road, Jenkintown, Pa.

☐ Send me FREE FOLDER: *The Modern Approach to the Brush Problem.*

☐ Arrange a demonstration without obligation.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

WRITE TODAY FOR COMPLETE INFORMATION. BETTER STILL—ASK FOR A NO-OBLIGATION DEMONSTRATION.

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

A Mower for Every Maintenance Requirement

182 Whichever Locke mower you choose —the Single, that cuts and trims in one operation, up to ¾ acre per hour, or the Triplex, which cuts and trims in one operation, up to 2 acres per hour—your city is assured fast, clean, trouble-free operation with maximum efficiency. For all the facts on Locke mowers, write LOCKE POWER LAWN MOWERS, 1313 CONNECTICUT AVE., BRIDGEPORT 1, CONN.

New Crawler Tractor and Motor Scraper

183 Allis-Chalmers has revised its pocket-sized line catalog, *MS-1272*, to include the company's turbo-charged HD-21 diesel-powered crawler tractor, and the TS-160 motor scraper. For your copy of this informative booklet, write ALLIS-CHALMERS MFG. CO., TRACTOR GROUP, MILWAUKEE, WIS.

An Easy-to-Install Water Pipe

184 A new time and money-saving way to lay watermain is offered by JAMES B. CLOW & SONS, INC., 201-299 N. TALMAN AVE., CHICAGO 80, ILL. It involves the use of a single gasket, rubber seal joint that requires no bolts or follower glands to make a tight, dependable joint. Clow Bell-Tite Joint cast iron pipe is available for water working pressures up to 350 psi. Write for details.

Introducing 102 Controls for Traffic Signals

185 The Autoflow family of 102 traffic signal controls includes types for all applications. All units feature jack mounted components, interchangeability of common parts and multi-purposes operation. They can be used for interconnected or non-interconnected systems. Get *Bulletin 3702* from SOUTHERN SIGNALS, INC., 222 BEACH ST., SHREVEPORT, LA.

Handles Year-Round Loading Jobs

186 Now you can get a Nelson loader to handle all your loading requirements, without changeover or special attachments. An efficient snowloader, it works equally well handling heavier materials for your spring and summer street programs. For full details on the Nelson R11-AP, write N. P. NELSON IRON WORKS, INC., 852 BLOOMFIELD AVE., CLIFTON, N. J.

New Vertical Boom Crawler Ditcher

187 Barber-Greene's Model 784 is a vertical boom, crawler mounted ditcher designed to handle a variety of municipal operations quickly and efficiently. The boom digs up to 7 feet deep, and features bucket widths of 19, 21 and 24 inches. For further information, prices and specifications, write BARBER-GREENE CO., 400 N. HIGHLAND AVE., AURORA, ILL.

Low-Cost Rotary Mower

188 An economical, self-propelled rotary mower for use in parks, cemeteries and public golf courses is offered by PROPULSION ENGINE CORP., SOUTH MILWAUKEE, WIS. The Model 419 features front right side discharge, and has a 19-inch cut. Details on request.

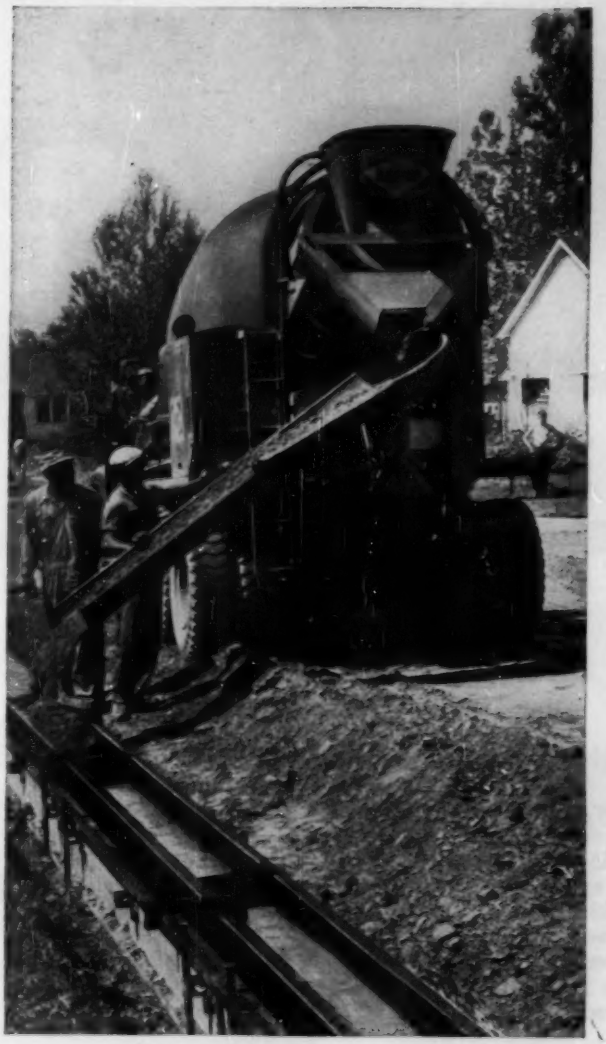
(See page 43 for more Bulletins)

Blaw-Knox Universal Forms average ten years' service, give contractor competitive edge

The Jackson Construction Company, general concrete contractors of Gadsden, Alabama are engaged in installing curbs and gutters along 61 miles of streets in Mobile. Basic to this operation is the use of Blaw-Knox Universal Forms which have been standard equipment with Jackson for almost the entire life of their business.

Looking back on his company's experience, Mr. R. N. Jackson, President, says, "There are several features which a contractor should look for in curb and gutter forms. They should be sturdy enough to take the rough treatment that laborers will give them. At the same time they should be light enough to transport in a pickup truck. And most important, they should be easy to set and strip."

Any way you look at it, Blaw-Knox Universal Forms are a good, sound investment in your future profits. They are the only standardized, interchangeable, steel form system available for so many different jobs. See your nearest Blaw-Knox distributor. He's an expert in helping you fill your special requirement.



More than 1500 driveway openings had to be formed and poured on the Mobile, Alabama job. Salvaged sections of damaged forms were cut to length and used for this part of the job. A new Blaw-Knox Model 55 Trukmixer is delivering concrete to the job.

BLAW-KNOX

BLAW-KNOX COMPANY

Construction Equipment Division

30 Charleston Avenue, Mattoon, Illinois

Now, International tractors with matched loaders and backhoes—complete units backed by unexcelled IH facilities for parts, service, and financing. Here, the new 330 Utility with International Pippin loader and backhoe.

NOW! MORE 'BEEF'

than ever before in a 35 hp rig!

It's terrific for trenching, loading, 'dozing! Now you can get an International tractor in the economical 35 hp class, with strength and stamina for high capacity and low maintenance. The new International 330 Utility has up to 900 pounds greater built-in weight than other tractors of similar horsepower—really *rugged* construction! Handle 1,000 pounds with a front-end loader, lift 4,000 pounds with rear-mounted fork, dig faster with heavy-duty backhoe.

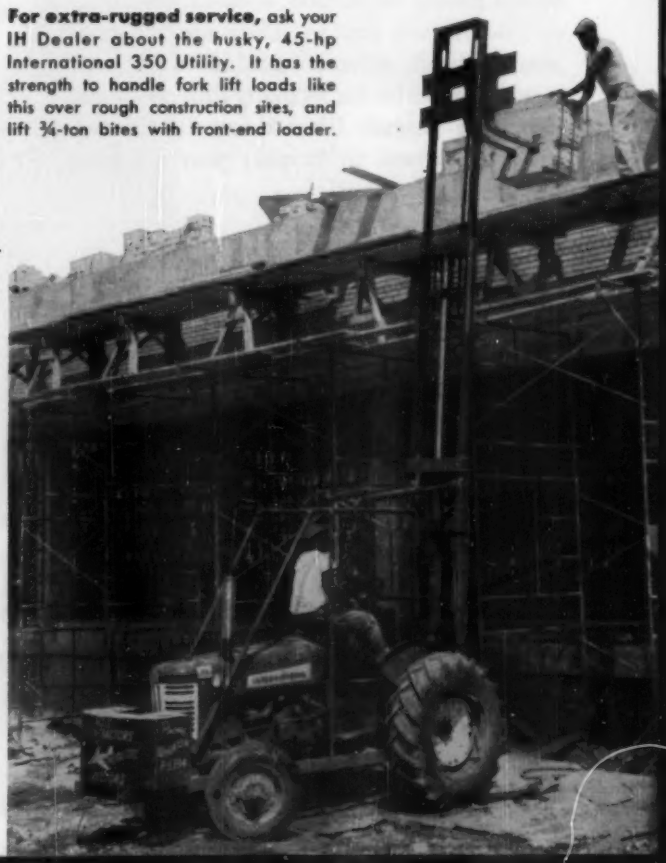
ALL the work-easing features of larger IH tractors are available—10 speeds forward with Torque Amplifier drive . . . power steering . . . job-tailored Hydra-Touch equipment control . . . Fast-Hitch.

See how heavy-duty design can cut your costs! Phone your IH Dealer. He will be glad to demonstrate. For free catalog, write International Harvester Co., Dept. AC-A, P. O. Box 7333, Chicago 80, Ill.

SEE YOUR
INTERNATIONAL HARVESTER DEALER

International Harvester Products *pay for themselves in use*—
Farm Tractors and Equipment . . . Twine . . . Commercial Wheel Tractors . . . Motor Trucks . . . Construction Equipment—General Office, Chicago 1, Illinois

For extra-rugged service, ask your IH Dealer about the husky, 45-hp International 350 Utility. It has the strength to handle fork lift loads like this over rough construction sites, and lift ¾-ton bites with front-end loader.



Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Takes Guesswork Out of City Planning

189 An increasing number of cities, large and small, are benefitting from the use of aerial maps in their city planning projects. These maps provide accurate, up-to-date information for zoning and land use studies, planning future sewage disposal, and for major street plans. Get full details from AERO SERVICE CORP., PHILADELPHIA 20, PA.

Makes Overhead Maintenance Fast, Safe, Easy

190 Whatever your maintenance job, it can be handled quickly and efficiently with a Strato-Tower hydraulic aerial tower. Models are offered in 35-, 45-, 65-, and 95-foot sizes, for mobile mounting, and are available with or without wheeled outriggers. Get full details from STRATO-TOWER DIVISION, ELKHART WELDING & BOILER WORKS, INC., 2132 S. MAIN ST., ELKHART, INC.

Let Specialists Handle Incineration Problems

191 Whatever your city's disposal problem, Nichols incineration specialists are ready to engineer and deliver an incinerator plant designed especially for your requirements. The company emphasizes "inoffensive" residue and effluent. Get full details from NICHOLS ENGINEERING & RESEARCH CORP., 70 PINE ST., NEW YORK 5, N. Y.

Tractor Plus Attachments Does Many City Jobs

192 Wherever there is a job to be done—on hillsides, in mud or snow—a John Deere "420" crawler tractor will get it done quickly and economically. A variety of efficient attachments are available with this tractor, increasing its usefulness on many municipal applications. Get the full story from JOHN DEERE INDUSTRIAL DIVISION, MOLINE, ILL.

Ends Salt-Slush Corrosion

193 New formula Banox effectively protects municipal equipment, cars, trucks and other metal surfaces against the damaging effects of salt-slush corrosion. For full details on how a salt-Banox team can give you double-protection against snowy, icy streets this winter, write CALGON CO., HAGAN BLDG., PITTSBURGH 30, PA.

Provides Clean, Clear Swimming Pool Water

194 The Sparkler Model SCJ diatomite water filter reduces bacteria and removes all visible sediment and organic matter leaving swimming pool water clear and sparkling. It reduces the amount of chlorination required for safe, sterile water. Write for literature to SPARKLER MFG. CO., MUNDELIN, ILL.

Blast Away Old Traffic Lines

195 You can erase about three feet a minute of average worn centerlines with a Cyclone traffic line remover. Only one man is needed to operate this efficient machine. For full information, write CYCLONE SANDBLAST EQUIPMENT, 42 CLARA ST., SAN FRANCISCO, CALIF.

Drills Holes Through Reinforced Concrete

196 Drilling holes through thick reinforced concrete walls is fast and easy with a Truco Diamond Drilling Machine. For full information on this efficient unit, write TRUCO SWIVEL DIVISION, WHEEL TRUEING TOOL CO., 14-3200 W. DAVISON AVE., DETROIT 38, MICH.

Revitalize Your Old Traffic Signs

197 Old traffic signs can be made new again with Grace "Ez-On" sign faces. These reflectorized faces can be applied in minutes right over your present signs. Only a crimping tool is needed. Get full information from GRACE SIGN & MFG. CO., DEPT. CA, 3601 S. SECOND ST., ST. LOUIS 18, MO.

Water and Other Liquid Meters

198 Liquid meters—all types and sizes—are designed for accuracy, dependability and minimum maintenance by Worthington-Gamon. For full details on these efficient units, write WORTHINGTON-GAMON METER DIVISION, WORTHINGTON CORP., 296 SOUTH ST., NEWARK 5, N. J.

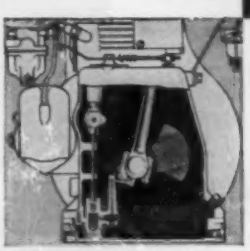
Need More Water?

199 If you do, write to Layne & Bowler and ask for *Bulletin No. 100.* This gives you details on Layne service which includes every phase of water development jobs, from initial surveys and construction, to operation and maintenance. Write LAYNE & BOWLER, INC., MEMPHIS 8, TENN.

(See page 46 for more Bulletins)

full time POWER with...

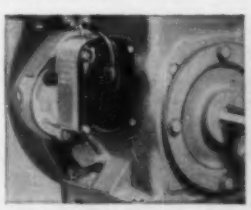
WISCONSIN Powered Equipment



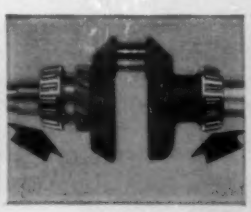
Oil pump provides surest lubrication . . . even when oil is at a very low point.

• Mere eye appeal is not enough when you choose a mower! Your equipment must deliver breakdown-free dependability, hour after hour, day after day even under toughest operating conditions. The mower engine must match this performance, delivering *FULL TIME POWER* always.

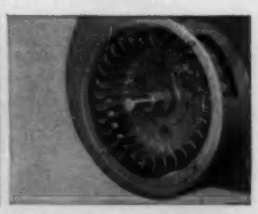
Check these *FULL TIME POWER* features found on Wisconsin Heavy-Duty Air-Cooled Engines. Good reasons why your city, town or county government should specify Wisconsin Engine-powered equipment, 3 to 56 hp. Write for bulletin S-212, covering all models.



Weather-sealed magneto is an exclusive feature . . . includes an impulse coupling delivering faster all-weather starts. Magneto replaced in minutes.



Tapered Roller Bearings at Both Ends of drop-forged crankshaft. Found in no other mower-sized engine. Main bearing failure doesn't happen.



High capacity flywheel fan assures efficient air-cooling from sub-zero to 140° F.

WISCONSIN MOTOR Corporation

World's largest builders of Heavy-Duty Air-Cooled Engines

Milwaukee 46, Wisconsin, U. S. A.

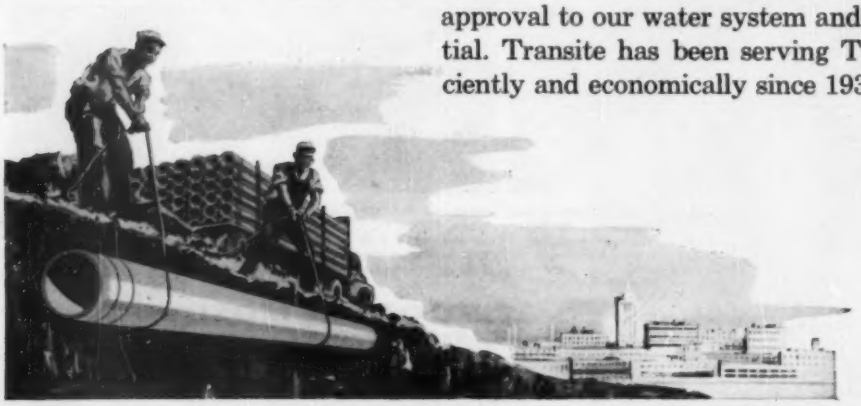
2,000 SERVICE STATIONS . . . SEVERAL NEAR YOU

A7-6147

"Our continually expanding water system with many miles of Transite Pipe is playing a major role in our rapid growth and industrial development."

Says Don Hummel
Mayor of Tucson, Arizona

"An ample supply of pure fresh water is a 'must' to firms seeking new locations. And to date," continues Mayor Hummel, "without exception, every firm considering Tucson has given approval to our water system and its potential. Transite has been serving Tucson efficiently and economically since 1934."



JOHNS-MANVILLE
JM
PRODUCTS

TUCSON, ARIZONA . . . one of the many growing communities served by Transite Pressure Pipe

Your community, too, can benefit from Transite Pressure Pipe— it keeps installation costs low, assures long-term pumping economy

YOU KNOW the investment value of an efficient water system—the way it attracts new industry to spark business activity . . . saves tax dollars for other uses . . . adds to community health, comfort and fire safety.

And a community water system can be an even better investment with Transite® water mains. For the system can be designed more efficiently—installed at less cost—operated more economically throughout its long life span.

Designed more efficiently. Transite's high-carrying capacity (flow coefficient, C=140) often permits use of smaller diameter pipe. And because it can't tuberculate (a form of interior corrosion) there's no need to make costly allowances for future reduction in carrying capacity.

Installed more economically. Lightweight, easy to handle, quickly assembled with the Ring-Tite® Coupling—Transite reduces substantially the costs of time and labor.

Lifetime economy. Because Transite can't tuberculate, its smooth interior stays smooth indefinitely to assure peak pumping economy throughout its service life.

Strong, corrosion-resistant—it keeps maintenance costs low.

Let us send you booklet TR-160A. Write Johns-Manville, Box 14, New York 16, New York.

JOHNS-MANVILLE
Transite Pressure Pipe

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Keeps Your City Litter-Free

200 Help keep your city clean and attractive by placing these expanded metal refuse baskets in strategic spots. The baskets have welded reinforcing bands and ribs, rolled top edging, and one-piece Saf-T-Mesh construction. Where extra sanitation is required, try the efficient Wheeling can with swing door cover. Get full details from WHEELING CORRUGATING CO., WHEELING, W. VA.

New "Moto-Bug" Carries Greater Loads

201 The 18-cubic-foot hopper of the new Kwik-Mix "Moto-Bug" is designed to carry up to 3,000 pounds. Used as a forklift, at 15-inch load center, the unit will raise 1,500 pounds as high as seven feet. Moreover, the operator can tilt the forklift mast 10° back—2° forward. For full details on the Model R-18, write KWIK-MIX CO., PORT WASHINGTON, WIS.

Low-Cost Power

202 These diesel, duafuel and spark-ignition gas engines are designed for economical, reliable, around-the-clock power to meet every municipal demand. They are fully described in literature from NORDBERG MFG. CO., MILWAUKEE, WIS.

Traffic Sign Portfolio

203 Cities using overlaid plywood signs or wishing to become acquainted with them, are offered a set of specifications and data as follows: (1) Specification and Procurement; (2) Sign Design and Fabrication; (3) Field Erection; (4) Vandalism. For a copy of this portfolio, write DOUGLAS FIR PLYWOOD ASSOCIATION, DEPT. 160, TACOMA 2, WASH.

Fast, Effective Way to Kill Insects

204 Flies, mosquitoes and other insect pests are quickly destroyed with the efficient Dyna-Fog. The unit weighs only 100 pounds, yet, generates as much fog as heavier machines. Another model, the Dyna-Fog Jr., weighs only 19 pounds, and is ideal for use around schools, playgrounds, beaches and golf courses. For the full story, write CURTIS AUTOMOTIVE DEVICES, INC., DYNA PRODUCTS DIV., P. O. BOX 232, BEDFORD, IND.

Reflective Traffic Lines

205 Cities interested in choosing an effective reflective marking for center lines and other traffic lines should look into the advantages of "Centerlite" reflective compound. "Centerlite" is said to last up to three times longer than ordinary reflective markings. The pre-mixed striping is easy to apply in one fast pass. Get full details from 3M CO., DEPT. AB-18, ST. PAUL 6, MINN.

Airport Lights Make Landings Safer

206 Type HRC runway marker lights deliver a higher light output from 500-watt, 115-volt prefocus lamps. Their 137,000 candlepower illumination can be seen 2,360 feet away by the pilot, with ¼-mile night time visibility. For full details on these high-intensity lights, write CROUSE-HINDS CO., SYRACUSE, N. Y.

Use Calcium Chloride for Ice Control

207 Now is the time to order Columbia calcium chloride for treating abrasive stock-piles, and to have supplies on hand for application with salt at the first winter emergency. To keep traffic rolling safely in winter months, get full details from COLUMBIA-SOUTHERN CHEMICAL CORP., ONE GATEWAY CENTER, PITTSBURGH 22, PA.

Light the Way to a Better Community

208 How much good street lighting can do for your community, is discussed in this 24-page bulletin, *GEA-6047*. The bulletin tells you how to keep pleasant streets from becoming dark and unattractive when night falls. Copies are available from SECTION P455-12, OUTDOOR LIGHTING DEPT., GENERAL ELECTRIC CO., SCHENECTADY 5, N. Y.

Two New Pumps

209 A light-weight, self-priming utility pump and a compact "Mud-Hog" diaphragm pump, are introduced by MARLOW PUMPS, DIVISION of BELL & GOSSETT CO., MIDLAND PARK, N. J. The utility pump is available in 1½- and 2-inch sizes, and is easily stowed in a truck compartment. The efficient "Mud-Hog" is available with or without wheels, and handles muddy water with ease. Details on request.

(See page 48 for more Bulletins)

60,000 cars per day moved thru Dallas intersection

by

ELECTRO-MATIC®

TRAFFIC CONTROLS

Traffic conditions at the intersection of Northwest Highway and Preston Road in Dallas, Texas indicated the necessity of volume-density signal control. An average daily volume of 60,000 cars, sharp peaks, heavy left turns and intermittent pedestrian requirements all contributed to intensify the problem.

To insure a successful solution, the City of Dallas installed an Electro-Matic Model 1033 Volume-Density Controller. Now traffic moves through this intersection freely, and without unnecessary delays.

For literature describing this equipment write for Bulletin C-135D.

AUTOMATIC SIGNAL DIVISION

EASTERN INDUSTRIES, INC. • NORWALK • CONNECTICUT

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Highway Mowing Easier

210 Sturdy Oliver tractors equipped with Danuser mowers are simplifying mowing operations on the new Kansas Turnpike, and are maintaining the right of way along highways in the Sunflower State. The mowers are mid-mounted for more efficient operation. Get full details from THE OLIVER CORP., INDUSTRIAL DIVISION, 19300 EUCLID AVE., CLEVELAND 17, OHIO.

"Packaged" Water System

211 RANNEY METHOD WATER SUPPLIES, INC., will furnish your community with a complete "package plan" to handle every phase of any water supply project. For an informative booklet explaining how your city can get low-cost water, write the company at 841 ALTON AVE., DEPT. AC-4, COLUMBUS 19, OHIO.

Removes Impurities from Water

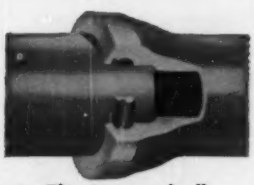
212 This booklet offers helpful hints on the use of Nuchar for removing impurities and objectionable taste and odors from water. For your copy of *Powdered Activated Nuchar for Purification and Reclamation*, write INDUSTRIAL CHEMICAL SALES DIV., WEST VIRGINIA PULP AND PAPER CO., 230 PARK AVE., NEW YORK 17, N. Y.

Left: Water Works Superintendent.

Right: Pipe Crew Foreman.

"IT SHO' IS EASY!"

YOU JUST PUSH McWANE *TYTON JOINT TOGETHER



Use a Fork Tool to push plain end of pipe into the Tyton socket, on sizes 2" and 2¼" to 8". You may also use a crowbar anchored in bottom of trench and pushing against bell-end. Only joint accessory is the Tyton gasket. Eliminates bell holes, reduces pipe line construction time and costs. Joint is flexible and will withstand pressures exceeding those required by standard cast iron pipe specifications. Joint approved by ULI in 4" and larger sizes. Pipe is standard McWane Super DeLavaud, centrifugally cast. Prompt shipment. Write for Tyton Joint folder.

*Patent Pending, Trademark ®

McWANE CAST IRON PIPE COMPANY
GENERAL OFFICES & FOUNDRIES, BIRMINGHAM, ALA.
Sales Offices: Dallas Chicago Kansas City New York Birmingham

Crawler and Wheel-Type Tractors

213 Eight wheel-type and four crawler units make up a 12 tractor line which offers municipalities an unprecendented number of models. Highlighting the new line is the Case-O-Matic drive which links the engine with transmission automatically to produce "power automation." Get full facts from J. I. CASE CO., RACINE, WIS.

Municipal Fencing

214 Because economical Realock fence is custom designed and erected, you get a fence that is especially tailored to individual municipal needs. Made of heavy steel fabric, Realock is available in heights to 12 feet, with or without barbed wire tops. Get *Catalog F-915C* from REALOCK FENCE, THE COLORADO FUEL AND IRON CORP., DENVER, COLO.

Join and Repair Pipe Quickly, Easily

215 The quick easy way to join pipe, and fast, economical repairs for pipe and pipe joints, are discussed in *Catalog No. 531*. These methods involve the use of such products as Dresser couplings, repair clamps and split repair sleeves in municipal waterworks and sewage disposal plants. Write DRESSER MFG. DIV., DRESSER INDUSTRIES, INC., BRADFORD, PA.

Street-Lighting Poles

216 When planning lighting modernization for your community, specify steel or aluminum—round or fluted—davit or bracket-type Monotube poles. For detailed information on these attractive, long-wearing street-lighting poles, write THE UNION METAL MFG. CO., CANTON 5, OHIO.

Asphalt Paving

217 To assist municipal officials with their paving problems, The Texas Co. has prepared two booklets which describe the various methods of constructing streets with Texaco asphalt products. Included is helpful information on heavy-duty pavements for main streets, as well as low-cost asphalt surface suitable for secondary streets. Write THE TEXAS CO., ASPHALT SALES DIV., 135 E. 42nd ST., NEW YORK 17, N. Y.

Improved Method of Treating Sewage

218 *Bulletin No. 7314* gives full facts on a new approach to the treatment of domestic sewage and industrial wastes, the Dorr-Oliver SoiroVortex System. This system is especially helpful where 90% B.O.D. removals are required. It produces excellent settling sludge, regardless of plant operating conditions. Write DORR-OLIVER INC., STAMFORD, CONN.

All Types of Traffic Signs

219 This comprehensive new catalog illustrates in full color a complete line of street-name and other traffic signs now in use by many economy-minded municipalities. Get your copy of *Catalog TSM* from TRAFFIC & STREET SIGN CO., 84 FOUNDRY ST., NEWARK 5, N. J.

Fire Service Meters

220 The Hersey Detector fire service meter, equipped with a bronze case compound meter on its by-pass, meets the demand for accurately measuring all rates of flow—from small domestic service through ranges required for fire service lines. Get full facts from HERSEY MFG. CO., DEDHAM, MASS.

(See page 52 for more Bulletins)

NEW!

WORLD'S FIRST OUTBOARD V-ENGINE

MEET THE SEA-HORSE V-50... THE JOHNSON THAT LAUNCHED THE V AGE IN OUTBOARDING!

It's a wonder under load . . . a 4-cylinder, 70.7 cubic inch, 50 hp "V" bomb! Inspired by the finest automotive V-engine design, it delivers blazing full thrust instantaneously!

What's more, the Sea-Horse V-50 brings "V" smoothness, silence and response to the working waterways. It's the most effortless, most efficient big motor ever built. And it's all new. From unit magneto and suction fuel pump to "rubber-floated" powerhead, spring-assisted tilt locks and premium long-life paint. If you want a rugged, all-purpose motor with a heart that's twice its displacement, this new "V" Sea-Horse is for you.

There's "V" value all through this year's Johnson line. From 3 to 50 hp, from $160 to $840, all eleven new Sea-Horses are models of dependability—worth more from take out to trade in. Why don't you go silent partners with a Sea-Horse. Your Johnson dealer's listed under "Outboard Motors" in the Yellow Pages. See him soon. Nearly two million dependable Sea-Horses prove Johnson knows best.

FREE 1958 Sea-Horse catalog! Write: Johnson Motors, 437 Pershing Road, Waukegan, Illinois. (Division of Outboard Marine Corporation. In Canada: manufactured by Johnson Motors, Peterborough, Ontario.)

NEW 4-CYLINDER SEA-HORSE V-50—$740

- Whopping 70.7 cubic inch displacement—largest among popular outboards.
- Develops 50 hp at only 4000 rpm—has enormous capacity for load.
- New recirculating water cooling system—maintains ideal block temperature, lengthens engine life. New V-50 can run continuously in the coldest waters.
- New twin-barrel down draft single carburetor—only one high speed carburetor adjustment to make.

Prices f.o.b. factory, subject to change. OBC certified brake hp at 4000 rpm (18s and 35s at 4500).

First in dependability... pioneers of the "V" age engine

Johnson

ALWAYS READY FOR ACTION...

POLICE CARS BY PLYMOUTH

Nothing is tougher on a car than police duty. But the new Plymouth is designed to stand up and deliver under even the most rugged conditions. Quiet cruise or red-hot pursuit, Plymouth lets your men perform more efficiently with the ease and comfort of Torsion-Aire Ride, the safety of Total-Contact Brakes, the advantages of greater visibility, and all of the other great features only Plymouth offers in its class.

At the heart of this better-than-ever Plymouth is power measured to your own prescription. You have your choice of five eager engines, including, at low extra cost, the all-new 350-inch Golden Commando V-8, to lend your cars all the authority of a night stick. Plus any of the other special police optional features that will tailor Plymouth to *your* every need. For the safety of *your* town, see your Plymouth dealer.

There's no catching **Plymouth** *... ahead for keeps!*

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT No. 252, SEC. 34.9 P. L. & R., NEW YORK, N. Y.

THE AMERICAN CITY MAGAZINE

470 FOURTH AVENUE

NEW YORK 16, N. Y.

NEED HELP?

If you need information on any type of municipal service or equipment, these reply cards will get action in a hurry.

To THE AMERICAN CITY's Catalog Supply Department:
Please send literature on items numbered as follows, starting on page 32.

151	164	177	190	203	216	229	242	255	268
152	165	178	191	204	217	230	243	256	269
153	166	179	192	205	218	231	244	257	270
154	167	180	193	206	219	232	245	258	271
155	168	181	194	207	220	233	246	259	272
156	169	182	195	208	221	234	247	260	273
157	170	183	196	209	222	235	248	261	274
158	171	184	197	210	223	236	249	262	
159	172	185	198	211	224	237	250	263	
160	173	186	199	212	225	238	251	264	
161	174	187	200	213	226	239	252	265	
162	175	188	201	214	227	240	253	266	
163	176	189	202	215	228	241	254	267	

I would also like to receive manufacturers' booklets on.....

.....

.....

.....

Name: (Please Print).....

Title:.....

Address:.....

.....1-58

A Listing of Your Business Connection is Important

To THE AMERICAN CITY's Catalog Supply Department:
Please send me further information on Products described in "Purchasing News" section beginning On page 195 as circled below:

898	903	908	913	918	923	928	933
899	904	909	914	919	924	929	934
900	905	910	915	920	925	930	935
901	906	911	916	921	926	931	
902	907	912	917	922	927	932	

I would also like to receive manufacturers' booklets on.....

.....

.....

.....

Name (Please Print).....

Title:.....

Address:.....

..... 1-58

A listing of Your Business Connection is Important

DO IT THE EASY WAY

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD

FIRST CLASS PERMIT No. 281, SEC. 34.9 P. L. & R., NEW YORK, N. Y.

THE AMERICAN CITY MAGAZINE

470 FOURTH AVENUE

NEW YORK 16, N. Y.

Save time and effort by using these reply cards when you want additional information on any product or service mentioned or advertised in this issue.

Protect your community's health SIX WAYS with longer, stronger AMVIT Clay Pipe

Outstanding Mechanical Joint on pipe over 4 feet long One of your City's Lifelines

Each year thousands of taxpayer's dollars are *wasted* on "substitute" materials used in sewer lines. Failure and collapse of non-clay sewers endangers the health of the community. Sewers must be constructed of permanent materials for they carry to safe disposal thousands of tons of waste laden with dangerous and deadly bacteria.

Amvit Jointed Clay Pipe gives decades of uninterrupted underground service. Neither joint nor pipe is affected by these factors:

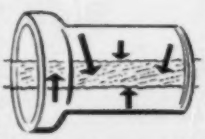
1. ROOTS

force the pipe out of line and clog the system in search of moisture. Amvit is a compression joint on the ball and socket principle. The surfaces of both bell and spigot are in constant compression. Roots cannot enter the line.

2. CHEMICAL ATTACK

is from acid-laden, high temperature sewage, discharged from dishwashers, garbage disposal units and washing machines. Like the clay pipe, Amvit Joint is acid resistant and will not corrode or decompose.

3. FLOW LINE ATTACK



refers to that section of the pipe which lies between low and high water. Grease and scum tend to build up here and acts as a solvent on certain synthetic substitute pipes. The design of the Amvit Joint assures that the pipe is self centered at all times. This gives perfect alignment and self-cleansing.

4. EROSION

is the wearing out of pipe by abrasive action of sand and gravel. Soft pipes become scratched and roughened and tend to clog up. Because Amvit is a really tight joint, no foreign matter can possibly enter the line.

5. DECOMPOSITION

is the chemical breakdown of the component elements of the pipe. Only clay pipe resists decomposition. Like the pipe, the joint is unaffected by ordinary conditions of underground service.

6. RODENTS AND TERMITES

will gnaw away wrappings and coatings of pipe. Amvit Clay Pipe defies even the sharpest toothed rodent and is immune to termite attack.

For more information on how Amvit can help cut your sewer project costs, write or call American Vitrified Products Company, National City Bank Building, Cleveland, Ohio, or our office nearest you.

SINCE 1900

American Vitrified Products Company

MANUFACTURERS OF: Clay Pipe, Flue Liners, Clay Liner Plates and Concrete Pipe.

*T. M. Registered.

Plants Across the Nation . . . Brazil, Indiana · Chicago, Illinois · Cleveland, Ohio · Crawfordsville, Indiana · Detroit, Michigan · East Liverpool, Ohio Fenton, Michigan · Grand Ledge, Michigan · Lisbon, Ohio · Los Angeles, California · Milwaukee, Wisconsin · South Bend, Indiana · Uhrichsville, Ohio

When you plan your new facilities, include W & T Equipment, both Chlorinators and Dry Chemical Feeders.

". . . this is where we plan to put the W & T Dry Chemical Feeders."

When you plan your new plant or the expansion of your present one, be sure to plan a place for W & T Dry Chemical Feeders as well as Chlorinators. W & T Feeders are used for every type of dry feeding problem found in water and sewage treatment plants.

W & T makes both volumetric (volume measurement) and gravimetric (weight measurement) feeders. There is a feeder for any size job, from small equipment to measure out ounces, to accurate giants capable of handling thousands of pounds per minute.

To find out more about W & T Dry Chemical Feeders, write for bulletin S-124. Or let us know the type of feeder problem you have, so we may send publications describing the W & T equipment best suited for your job.

WALLACE & TIERNAN INCORPORATED
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY

W&T DRY CHEMICAL FEEDERS

For Accurate Feeding Of Water Treatment Chemicals

Full line of wide range dry chemical feeders capable of controlling a few ounces to 3000 lbs. per minute.

Write for Bulletin M-38 for complete Dry Feeder information.

WALLACE & TIERNAN INCORPORATED
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Cleans Ice and Snow Off City Streets

221 The Ram rotary snowloader is designed for use on HF, HR, HY, HU, HH and HO Hough Payloaders. It operates economically and efficiently, blowing snow up to 100 feet, and loading up to five yards of snow per minute directly into trucks. Get the full story from RAM EQUIPMENT CO., INC., 5209 W. BROADWAY, MINNEAPOLIS 22, MINN.

Equipment for Testing Soil, Concrete

222 Concrete and bituminous pavement slabs can be checked for trueness and flatness quickly and accurately with the Soiltest Pavement Detector. Models are available in 10-, 12- and 16-foot lengths. Another efficient unit is the concrete Kelly Ball, a new pentration device for making slump tests of concrete. Full facts on these and other concrete and soil testing apparatus, write SOILTEST, INC., 4711 W. NORTH AVE., CHICAGO, ILL.

Marina-Boat Lift

223 Standard Steel's new marina-boat lift combines a boat lift and boat marina in a single unit. It is designed for inboards and outboards up to 15 feet long, weighing about 800 pounds. Features include sturdy tubular steel construction, and a large capacity hydraulic lift mechanism that brings the boat out of water in seconds. Write STANDARD STEEL PRODUCTS MFG. CO., MILWAUKEE, WIS.

Long-Wearing Markers for Any Pavement

224 Economarkers are quickly and easily applied to any surface in any month of the year with cold, quick-setting Economastic. These long-wearing markers are available in two thicknesses, various sizes, shapes, strips, legends, numerals and directional arrows. For a 20-page traffic control manual, *ESC-57*, write ECONOMARKER SAFETY CORP., 1820 CENTRAL PARKWAY, CINCINNATI 14, OHIO.

Efficient Tamping

225 The Jay tamper tamps earth, rock and asphalt to uniform proctor densities. It vibrates as it tamps, and propels itself up to 45 feet per minute. For further information and an illustrated brochure, write JAY CO., 2222 S. THIRD St., COLUMBUS 7, OHIO.

Stores Digester Gas

226 Efficient storage of digester gas in municipal sewage plant operations is provided by Pittsburgh-Des Moines Pressure Spheres. Of special Icosaphere design, these modern vessels are economical to construct. Get the full story from PITTSBURGH-DES MOINES STEEL CO., 3412 NEVILLE ISLAND, PITTSBURGH 25, PA.

Water-Works Check Valves

227 *Circular No. 18* describes a full line of Swing Check Valves—plain, lever and weight, and lever and spring models—all designed with full opening for high flow efficiency. Copies are available from M & H VALVE AND FITTINGS CO., ANNISTON, ALA.

(See page 54 for more Bulletins)

Model 40 A-W Motor Sweeper (2 cu. yd.) operating in the City of Norwood, Ohio. Inset shows Edwin J. Tepe, Norwood's Director of Public Works.

"Our Austin-Western is very maneuverable . . . does an excellent cleaning job"

says Edwin J. Tepe, Director of Public Works, Norwood, Ohio

The City of Norwood, Ohio, is a pleasant residential and industrial city surrounded by Cincinnati, and its Director of Public Works, Edwin J. Tepe, believes in keeping it attractive. He says: "We have been using an Austin-Western sweeper for the past 7 years, and were so well satisfied that when we were in the market for a new machine we decided to buy another A-W unit.

"The A-W's front steer is safer, because the operator can always see what he's doing and the machine is very maneuverable, gets in and out of tight places quickly. Furthermore, the adjustable, bump-proof gutter broom does an excellent cleaning job."

Service is very good. "Another primary consideration when we decided to buy was the fine service we received from our local distributor. Maintenance has been very low, but it's good to have spare parts readily available when you need them."

There is an A-W Motor Sweeper to fit every municipal budget: Model 40 (2 cu. yd.) and the larger Model 60 (4+ cu. yd.). Both can be purchased with a single gutter broom, and the second broom can be added later at low cost if the need arises. Leaf broom, cab and windshield are also available. Write us for more information on motor sweepers or see your nearby A-W distributor.

Austin-Western CONSTRUCTION EQUIPMENT DIVISION, AURORA, ILL.

BALDWIN · LIMA · HAMILTON

Power graders • Motor sweepers • Road rollers • Hydraulic cranes

TC
TENNESSEE CORPORATION

Ferri-Floc
FERRIC SULFATE

1 Manganese and Silical removal
2 Increased filter runs
3 Coagulation over wide pH ranges
4 Rapid floc formation
5 Turbidity removal
6 Economy
7 Color removal
8 Excellent taste and odor control
9 Bacteria removal
10 Ease of Operation

The Superior **COAGULANT**

With The Plus **FACTORS**—

Ferri-Floc gives smoother, more efficient and trouble free operation. Whatever your particular water treatment problem may be, you can depend on Ferri-Floc doing a superior job and doing it efficiently and economically — Ferri-Floc is a free flowing granular salt which can be fed with few modifications through any standard dry feed equipment. It is only mildly hygroscopic, thereby permitting easy handling as well as storage in closed hoppers over long periods of time.

WATER TREATMENT

Efficient coagulation of surface or well waters. Aids taste and odor control—Effective in lime soda-ash softening. Adaptable to treatment of nearly all industrial waters.

SEWAGE TREATMENT

Ferri-Floc coagulates water and wastes over wide Ph ranges—it provides efficient operation regardless of rapid variations of raw sewage and is effective conditioning sludge prior to vacuum filtration or drying on sand beds.

SULFUR-DIOXIDE HIGHEST QUALITY SO_2

SULFUR-DIOXIDE is effectively used for dechlorination in water treatment and to remove objectionable odors remaining after purification.

COPPER TC SULFATE

COPPER SULFATE will control about 90% of the microorganisms normally encountered in water treatment plants more economically than any other chemical.

FREE BOOKLET

Let us send you without charge, a 38 page booklet that deals specifically with all phases of coagulation—just send us a postal card.

TENNESSEE TC CORPORATION

617-29 Grant Building, Atlanta, Georgia

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Reduce Odor of Diesel Exhaust Gas

228 Alamask DI-2K mixed with diesel fuel reduces the intensity and serves to abate the malodorous exhaust fumes from diesel engines. Field tests covering both indoor and outdoor operation show favorable results when the additive is applied at the rate of 0.02%, based on fuel weight. Operators of diesel equipment such as trucks, buses, trains and boats, especially in congested areas will find Alamask DI-2K an important aid in controlling odors of diesel fuel. For further information and samples, write RHODIA INC., ALAMASK DIV., 60 E. 56th ST., NEW YORK 22, N. Y.

Installs Pipe Under Street, Lawns

229 Teamed with a portable power pump, a Greenlee hydraulic pipe pusher makes fast, easy work of installing pipe under streets, walks, floors and lawns. The unit averages about two feet of pipe per minute. Extensive ditching is eliminated. Get the full story from GREENLEE TOOL CO., 2032 COLUMBIA AVE., ROCKFORD, ILL.

Gates for Waterworks, Sewage Plants

230 The recently expanded line of Armco heavy and light-duty slide gates and flap gates makes it easy to meet your city's water and sewage plant requirements. For details on the wide variety of sizes and types available, write ARMCO DRAINAGE & METAL PRODUCTS, INC., 5737 CURTIS ST., MIDDLETOWN, OHIO.

Municipal Fire Hose

231 Descriptions of various types of fire-hose—double and single jacket, fire engine suction, high-pressure fog, and chemical booster hose—are contained in this new 8-page booklet. Included is such information as construction size, weight, strength, and lengths of hose available. Write HEWITT-ROBINS, INC., 666 GLENBROOK RD., STAMFORD, CONN.

Street Lighting Brackets for Fluorescents

232 A new line of Hubbard galvanized steel street lighting brackets has been developed especially for fluorescent installations. For complete information on the variety of styles available, write HUBBARD AND CO., PITTSBURGH 1, PA.

Dependable Incineration

233 With International incinerators you get complete burning and continuous feeding. Fly ash is kept at a minimum. For answers to your special refuse disposal problems, write INTERNATIONAL INCINERATORS, INC., WALTON BLDG., ATLANTA, GA.

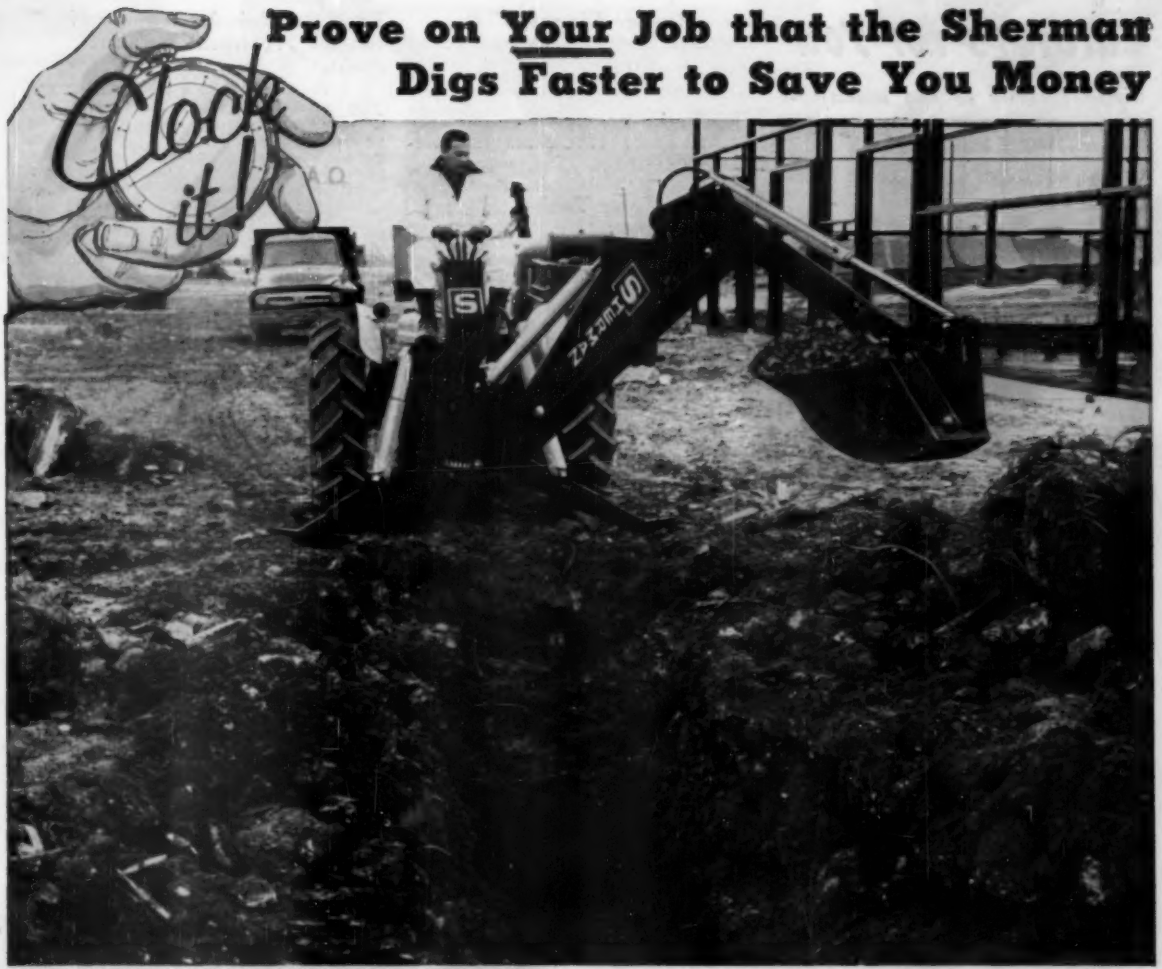
Collapsible Ballot Box

234 Here is a ballot box that folds to a two-inch thickness, is quickly and easily erected and, more important, has the strength of an ordinary rigid box. The box is available in a variety of sizes and is finished in grey spatter enamel. Padlocks are furnished. Write DOUGLAS MFG. CORP., DEPT. "E," CRETE, NEBR.

(See page 56 for more Bulletins)

BALDWIN · LIMA · HAMILTON
Power graders • Motor sweepers • Road rollers • Hydraulic cranes

Prove on Your Job that the Sherman Digs Faster to Save You Money



The recently introduced Model "F" Sherman Power Digger excavates faster than any comparable backhoe!

Hard to believe? Well, don't take our word for it. We challenge you to "Clock it"! Ask your Ford Tractor Dealer to demonstrate the new Sherman on *your* job while you time it with a stopwatch. Prove to yourself that it saves you money by producing more work per dollar invested in time, equipment, maintenance and manpower.

If you are interested, we'll be glad to tell you of the many revolutionary features which contribute to the digging speed and durability of the new Model "F". Just drop us a line for Bulletin No. 1070.

Sold and Serviced by your local
FORD TRACTOR DEALER

Sherman
PRODUCTS, INC.
ROYAL OAK, MICHIGAN
POWER DIGGERS • FRONT END LOADERS • FORK LIFTS

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Works Sewer Stoppages Faster, Easier

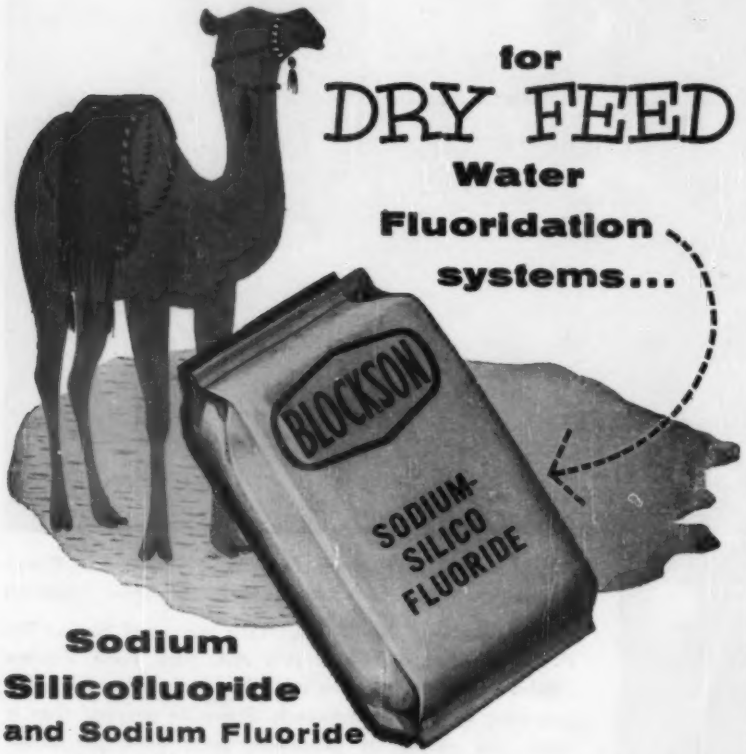
235 Sewer stoppages cease being a problem with the new flexible quick reverse power drive. You just shift the safety lever and the rotation of rods and tool is instantly reversed. This shift to reverse instantly corkscrews the tool out of the stoppage. Get full details from FLEXIBLE , INC., 3786 DURANGO AVE., LOS ANGELES 34, CALIF.

Better Sewage Ejectors

236 These pneumatic sewage ejectors do away with complex piping, screens, impellers, shredders and pumps that need constant cleaning. Single and duplex models are available. All are described in *Bulletin S-150* from BLACKBURN-SMITH MFG. CO., INC., 57 GARDEN ST., HOBOKEN, N. J.

Elevated Water Tanks

237 These dependable water storage tanks are designed to increase water pressure, minimize pressure variations, and lower pumping costs. The elevated structures are available in standard sizes ranging from 15,000 to 3,000,000 gallons. Write CHICAGO BRIDGE & IRON CO., 2127 McCORMICK BLDG., CHICAGO, ILL.



for
DRY FEED
Water
Fluoridation
systems...

Sodium
Silicofluoride
and Sodium Fluoride
are the recommended chemicals

BLOCKSON

INQUIRIES for technical bulletins, contract proposal, etc. *ARE INVITED.*

...and Blockson, the largest producer of Sodium Silicofluoride, and a major producer of Sodium Fluoride, is your assured source of supply.

BLOCKSON CHEMICAL COMPANY • Joliet, Illinois
Division of Olin Mathieson Chemical Corporation

WAREHOUSE STOCKS AT ALL BLOCKSON DISTRIBUTORS

Level Controls for Water and Sewage Treatment Without Floats

238 You can eliminate the annoying and persistent troubles that floats and their moving parts often create when you use B/W floatless liquid level controls. To learn the application of these controls in water and sewage treatment plants, write for an informative new catalog to B/W CONTROLLER CORP., 2200 E. MAPLE RD., BIRMINGHAM, MICH.

Fast, Easy Way to Cut Brush

239 Weighing only 29 pounds, this Hoffco heavy-duty brushcutter cuts in all positions—up, down or sideways—making vertical or horizontal cuts. The unit is designed for continuous operation with minimum maintenance. It is fully described in literature from HOFFCO, INC., DEPT. H. D., RICHMOND, IND.

For Every Overhead Maintenance Job

240 With a low-pressure hydraulic system and center mast counterbalancing, the Holan 2500 manually-operated hydraulic ladder raises and lowers quickly and easily. Elevating locations are infinite, and the angle of elevation can be changed with the ladder fully extended. Get full details from J. H. HOLAN CORP., 4100 W. 150th ST., CLEVELAND 11, OHIO.

Measures Chlorine in Water, Sewage

241 The Model 17A1100 is a new residual chlorine analyzer providing continuous automatic measurement of free, combined, or total residual chlorine in water, sewage. It is accurate within plus or minus 1% of the maximum range. Two standard ranges are available, 0 to 1 parts per million, or 0 to 10 parts per million. Write FISCHER & PORTER, 465 JACKSONVILLE RD., HATBORO, PA.

Protect City Schools with Chain Link Fence

242 Anchor chain link fence protects your public schools night and day; keeps pupils safely inside—trespassers and vandals outside. The fence is zinc-coated after weaving, eliminating the need for annual maintenance. It stays erect through all soil and weather conditions. Write ANCHOR FENCE, 6912 EASTERN AVE., BALTIMORE 24, MD.

Change Curb Stops Under Pressure

243 With the Aqua-Stop you can change those old leaking curb stops under full pressure. Digging through street paving to turn off the corporation stop is eliminated. There is no water or mud to work in. Get full facts from THE VIKING CO., P. O. BOX 9031, RIVERSIDE STATION, KANSAS CITY 18, MO.

Traffic Light Flashing Unit

244 A high speed flasher flashing the red traffic signals at 150 to 200 cycles per minute provides for additional awareness of the red light. However, this device may be flashed from 1 to 350 flashes for special use at critical intersections where neon signs predominate. This unit is said to withstand over 600,000,000 operations or a year's service. Write GENERAL ELECTRONICS CORP., 17 MADISON AVE., MONTGOMERY, ALA.

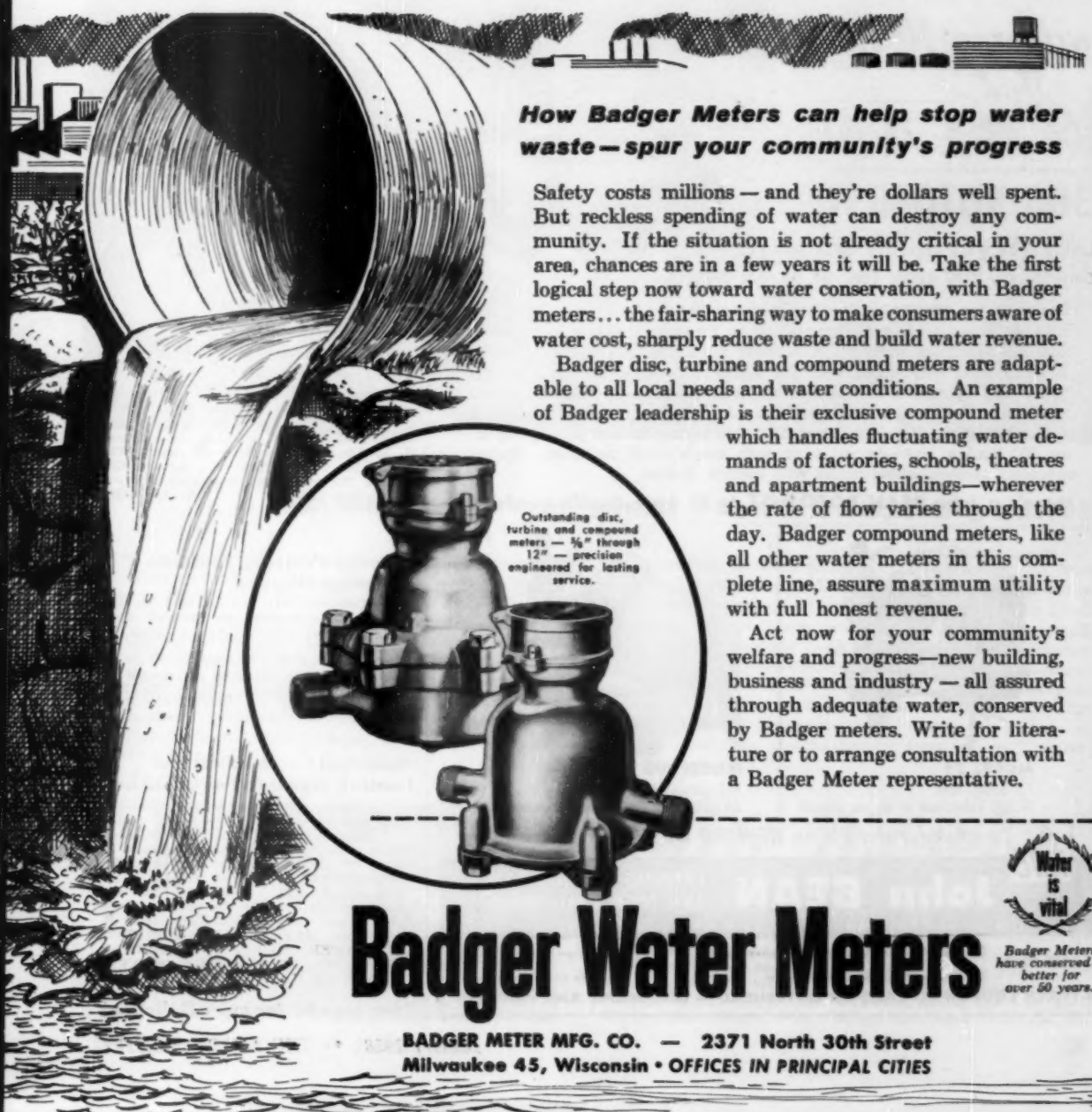
(See page 58 for more Bulletins)

Catalogs for You

Better Street Lighting

Men and property guarded

but how about our most precious possession . . . water?



How Badger Meters can help stop water waste—spur your community's progress

Safety costs millions — and they're dollars well spent. But reckless spending of water can destroy any community. If the situation is not already critical in your area, chances are in a few years it will be. Take the first logical step now toward water conservation, with Badger meters . . . the fair-sharing way to make consumers aware of water cost, sharply reduce waste and build water revenue.

Badger disc, turbine and compound meters are adaptable to all local needs and water conditions. An example of Badger leadership is their exclusive compound meter which handles fluctuating water demands of factories, schools, theatres and apartment buildings—wherever the rate of flow varies through the day. Badger compound meters, like all other water meters in this complete line, assure maximum utility with full honest revenue.

Act now for your community's welfare and progress—new building, business and industry — all assured through adequate water, conserved by Badger meters. Write for literature or to arrange consultation with a Badger Meter representative.

Outstanding disc, turbine and compound meters — ⅝" through 12" — precision engineered for lasting service.

Badger Water Meters

Water is vital

Badger Meters have conserved it better for over 50 years.

BADGER METER MFG. CO. — 2371 North 30th Street
Milwaukee 45, Wisconsin • OFFICES IN PRINCIPAL CITIES

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

DeLuxe Recarbonation for Small Water Plants

245 With the development of the small Carball—sizes "O" and "OO," WALKER PROCESS EQUIPMENT, INC., P. O. BOX 266, AURORA, ILL., now offers carbonation units for every size lime softening plant. The bubbler contact cooler line of Carballs is designed for water plants of 2 mgd and less. Capacities range from 55 to 660 pounds CO_2 per day. Write for *Bulletin 7W88.*

Better Street Lighting

246 If you would like help in planning new street lighting for your city, or in replacing obsolete lighting with modern, glare-free illumination—get full information from REVERE ELECTRIC MFG. CO., 6009 BROADWAY, CHICAGO 40, ILL. Write for *Catalog No. 700.*

Effective Chimney Lining

247 "Whiteware," another in a series of technical bulletins from CLAY SEWER PIPE ASSOCIATION, INC., illustrates and describes the dimensions of round, rectangular, and modular clay flue lining; clay flue rings and thimbles; clay stove pipe and fittings; and clay chimney tops and bases. Write the Association at 311 HIGH-LONG BLDG., 5 E. LONG ST., COLUMBUS 15, OHIO.

Now . . . faster, economical shade tree protection with the NEW

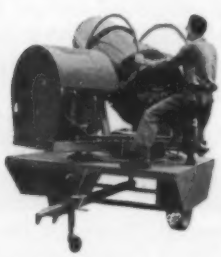
John BEAN

300 ROTOMIST

today's biggest capacity mist sprayer delivers 60,000 cubic feet of air per minute

Designed for greatest rate-of-work efficiency, the new John Bean 300 Rotomist saves money and manpower on large-scale shade tree protection and sanitation spraying. You spray more trees per day even under adverse wind conditions, with the Rotomist's straight-through air delivery, big volume 40-inch axial flow fan. Finger-tip hydraulic control levers for rotating unit 360° and adjusting discharge outlet to desired vertical position. Handy foot pedal controls spray discharge. Big capacity 300 gallon bowl-shaped tank with mechanical agitation. Spring mounted, tandem wheel trailer with electric brakes.

there's a John BEAN ROTOMIST to fit your specific needs



MODEL 75
75 gallon tank
19,000 cubic feet of air per minute

MODEL 100
100 gallon tank
28,000 cubic feet of air per minute

Ask for details on NEW 60 GPM Hydraulic Sprayer

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

John BEAN LANSING 4, MICHIGAN
SAN JOSE, CALIFORNIA
Division of Food Machinery and Chemical Corporation

Send me: [ ] New 1958 Rotomist & Hydraulic Sprayer Catalog [ ] Mist Sprayer Comparison Table
[ ] Facts on Dutch Elm Disease Control [ ] Mosquito Control Costs

ATTACH COUPON TO CARD OR LETTERHEAD — GIVE NAME AND ADDRESS

Easier Parking Meter Collections

248 Parking meter revenue takes a secure route when it travels from a Duncan-Miller meter into a Duncan-built locked collection cart. All receipts are provided maximum protection and collected coins are never exposed to view. For details on this patented one box system, write DUNCAN PARKING METER CORP., 835 N. WOOD ST., CHICAGO 22, ILL.

Water Meters That Operate Silently

249 In addition to accuracy, dependability and minimum maintenance, American water meters offer "whisper-quiet" performance, eliminating the nuisance problem of noisy meters. Metal-to-metal clicking sounds are avoided. Write for details to BUFFALO METER CO., 2902 MAIN ST., BUFFALO 14, N. Y.

Low-Cost Standby Power

250 The low cost of HS Series electric plants makes them especially desirable for standby emergency applications in schools, hospitals and wherever there is need for dependable, quick-starting auxiliary power. The plants are water cooled, and are available in 10 and 15 KW capacities. Write for details to D. W. ONAN & SONS INC., 2573 UNIVERSITY AVE., S. E., MINNEAPOLIS 14, MINN.

pH Handbook

251 A convenient reference source on pH for municipalities interested in the design, engineering, purchasing and operation of pH systems, is offered by BECKMAN INSTRUMENTS, INC., PROCESS INSTRUMENTS DIV., 2500 FULLERTON RD., FULLERTON, CALIF. Write for *The Industrial pH Handbook.*

Efficient Flasher for Traffic Signals

252 The TIME-O-MATIC CO. offers a jack-mounted flasher for efficient, long-lasting flasher operation in stop signs, loading zones, warning beacons, traffic islands, caution and detour signals. The flasher has a nylon gear and built-in eliminators. For prices and specifications, write the company at P. O. BOX 850, 1108 BAHLS ST., DANVILLE, ILL.

Answers Foaming Problems in Sewage Disposal

253 Defoamer 711 can be used successfully to combat the difficult foam problems facing municipalities in sewage system operation. It is easy to handle, contains no silicones, and will not separate out. No agitation is needed to maintain peak efficiency. Write ISOCHEM CORP., 221 OAK ST., PROVIDENCE 9, R. I.

Municipal Communications Control, Signal & Power Cables

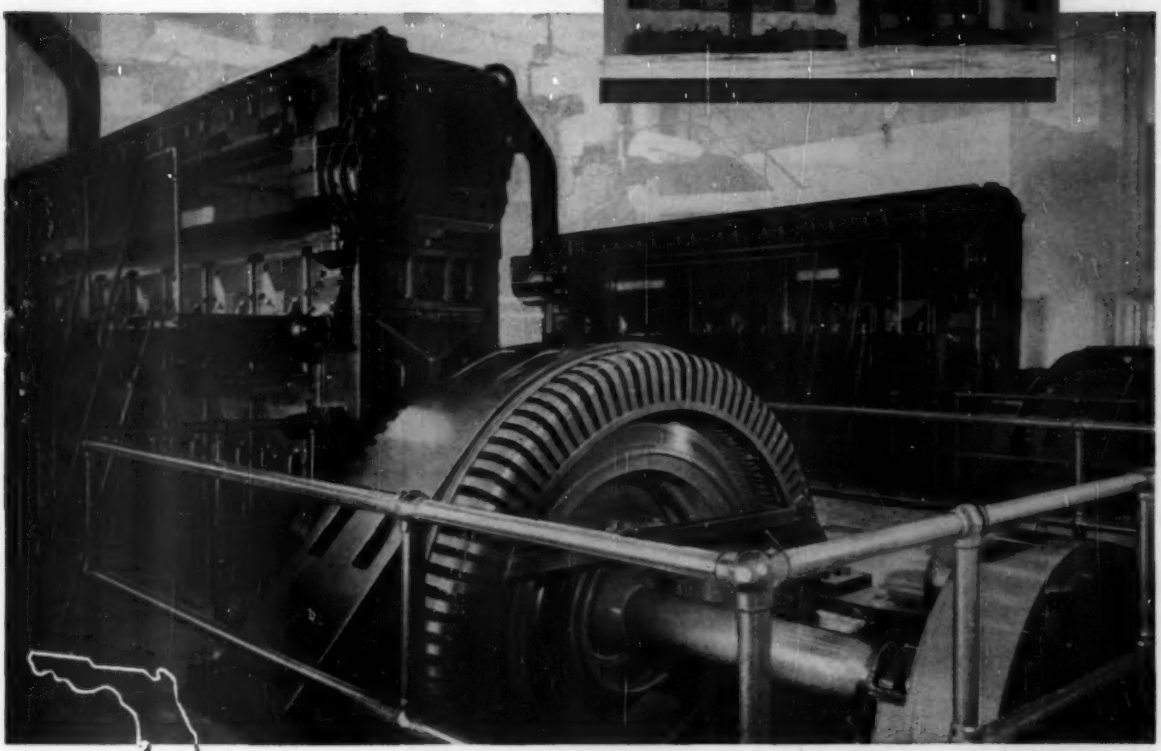
254 Known popularly among municipal engineers as the "Red Book" of the International Municipal Signal Association, this comprehensive brochure includes the latest specifications for police communications, traffic and fire alarm systems as approved by I.M.S.A. The new "Red Book" is an up-to-date version of the 1951 edition. Copies are available from R. H. Turner, ELECTRICAL CONDUCTOR DIV., KAISER ALUMINUM & CHEMICAL SALES, INC., 919 N. MICHIGAN AVE., CHICAGO 11, ILL.

(See page 60 for more Bulletins)

powered by

White's Superior Diesels

on heavy fuel



Marathon power plant saves $25,518 yearly!

True to the Florida town name of "Marathon," two dependable White Superior Model 80 Diesels are winning a real endurance contest at Florida Keys Electric Co-op Plant No. 2. Carrying base load in an area of tremendously increasing local demand, these rugged 8-cylinder 1422 HP supercharged diesels run almost 95% of the time on No. 6 residual fuel. For starting and stopping, No. 2 fuel is used. Saving is $25,518 yearly compared to cost of 100% operation on No. 2 fuel. Each 1000 KW unit is running almost continuously at rated output. In their first full year, they produced 10,638,410 gross KWH at a low fuel cost of 4.699 mills per KWH.

Economical operation on low cost heavy fuel results from Superior's highly developed open chamber combustion system plus special equipment and techniques perfected by White Diesel engineers. Rugged, heavy duty construction and high quality features enable Superiors to operate with minimum maintenance even where mushrooming local demand calls for peak output.

If extreme economy under "marathon" operating conditions interests you, call or write the nearest office listed below. Let White's engineers discuss the many outstanding features of Superior and Atlas engines, ranging from 100 to 2150 HP, for power to 1500 KW.

White Diesel

WHITE DIESEL ENGINE DIVISION

THE WHITE MOTOR COMPANY Plant and General Offices: Springfield, O.

SALES AND SERVICE POINTS: Ketchikan, Alaska • San Francisco, Terminal Island, California • Denver, Colorado • Washington, D.C. • Clearwater, Florida • New Orleans, Louisiana • Boston, Mass. • Park Rapids, Minnesota • Webster Groves, Missouri • Callaway, Nebraska • New York, N.Y. • Tulsa, Okla. • Portland, Astoria, Ore. • Ft. Worth, Houston, Texas • Seattle, Wash. • Halifax, Nova Scotia • Vancouver, B.C.

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

New Tandem Roller

255 Buffalo-Springfield has designed this 4-6 tandem roller with hydraulically-operated transporting wheels and a new "fold away" feature. The portable Model KT-8 has retractable towing wheels. When the wheels are not in use, they are raised hydraulically and folded into the sides of the main frame. Get full details from BUFFALO-SPRINGFIELD ROLLER CO., DIV. OF KOEHRING CO., SPRINGFIELD, OHIO.

Police Supplies

256 Guns and other police supplies are described in detail in this informative *Municipal and Industrial Catalog* from SARGENT-SOWELL, INC., P. O. BOX 1176, GRAND PRAIRIE, TEX. Copies on request.

Municipal Direction and Information Signs

257 Wherever municipalities have need for identification, information, instruction and direction, they can depend on distinctive Supersines. These satin finish alumilited aluminum signs have raised letters and borders. They are ideal for use in schools, hospitals and public buildings. Write THE SUPERSINE CO., 17125 VAN DYKE AVE., DETROIT 34, MICH.

One pound of HTH chlorinates 3,200,000 glasses of water*

. . . but the economy and effectiveness of HTH are only part of the story! You should also consider the convenience of this easy-to-store, and easy-to-use *dry* chlorinating product.

Consider, too, HTH's wide range of applications. Wherever germs, fungi or bacteria threaten—in pipe lines, reservoirs, wells, filtration equipment, as well as during emergency flood conditions—you get fast, dependable chlorination with HTH.

HTH, containing 70% available chlorine, is made in granular and tablet form. Both products are proved by over 25 years of successful service in almost every phase of water treatment. Check your supply house or write us today.

*0.5 ppm available chlorine treatment

HTH

OLIN MATHIESON CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS DIVISION • BALTIMORE 3, MD.
HTH® is a trademark

4342

Provides Automatic Off-Street Parking

258 No attendants are needed when off-street parking needs are handled by Parcoa automatic gates. Controls include coded "card-keys," coins, tokens, ticket dispensers, or any combination. The system is easy to operate, safe and dependable. Write PARCOA, DIVISION of JOHNSON FARE BOX CO., 4619 N. RAVENSWOOD AVE., CHICAGO 40, ILL.

Coagulant Aids for Water Treatment

259 Municipal water works can improve floc formation in clarifying and softening water with Hagen coagulant aids. Three coagulant aids, Numbers 7, 11 and 18, are available. They are completely harmless and easy to use. Write HAGAN CHEMICALS & CONTROLS, INC., HAGAN BLDG., PITTSBURGH 30, PA.

Controls Sewage Odors

260 Specify and use Cloroben for up-sewer treatment to control odor, minimize corrosion, and improve sewage plant operation. Use it also for septic tanks, cesspools, and chemical toilets. A technical brochure describing Cloroben applications and performance data, may be obtained from CLOROBEN CHEMICAL CORP., 115 JACOBUS AVE., SOUTH KEARNEY, N. J.

New Flasher Barricade

261 Wherever you need an effective warning device—at street construction and repair sites—you can depend on this new flasher barricade. The entire unit weighs less than 30 pounds and can be set up in seconds. There are no moving parts in the flasher. Get full details from PARK INDUSTRIES INC., 4328 OAKWOOD BLVD., MELVINDALE, MICH.

Use Rock Salt on Winter Streets

262 Straight Morton rock salt leaves no messy residue on streets, in gutters and sewers—needs no flushing after a thaw. It is inexpensive, non-toxic, and does a clean, thorough job of removing ice and snow. For a free book on ice and snow removal, write MORTON SALT CO., INDUSTRIAL DIVISION, DEPT. AC-12, 120 S. LaSALLE ST., CHICAGO 3, ILL.

Collects More Refuse in Less Time

263 Here is an efficient refuse collection truck designed to handle more pick-ups—greater loads—in less time. The Daybrook Power Packer features special "force-crush-pack" action. Get the full story, plus a "time load" demonstration, from DAYBROOK HYDRAULIC DIV., YOUNG SPRING & WIRE CORP., BOWLING GREEN, OHIO.

For Cleaner Sewers and Water Mains

264 Difficult sewer and water main cleaning problems are solved quickly and economically with NATIONAL POWER RODDING CORP. on the job. For free facts, estimates or surveys, write the company at 1000 SOUTH WESTERN AVE., CHICAGO 12, ILL.

(See page 62 for more Bulletins)

OVER A HUNDRED YEARS OLD...

"...in good working order"

CITY OF ALBANY, N. Y.

DEPARTMENT OF WATER AND WATER SUPPLY

WILLIAM F. DEVANE
COMMISSIONER

JOSEPH M. LAPENIS
DEPUTY COMMISSIONER

THOMAS F. FITZSIMMONS
SUPERINTENDENT
METERS AND ASSESSMENTS

JOHN C. McDONALD
CASHIER

October 25, 1957

Eddy Valve Company
Waterford, New York

Gentlemen:

We are enclosing a picture of a 6" Eddy Valve placed in service some time previous to the year 1851, this being the year the City acquired the Water Supply from a private company.

How many years prior to 1851 this valve was installed is problematical as Cast Iron water mains have been used in this city since the year 1813.

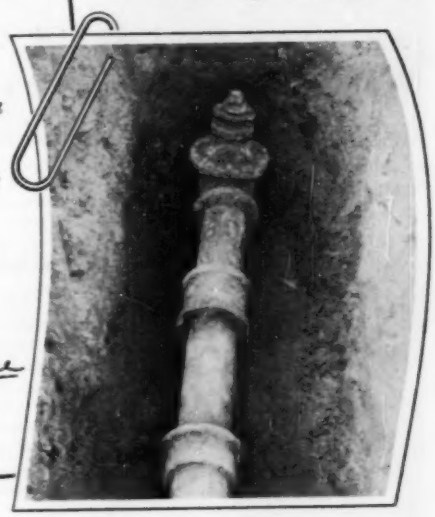
This valve is in the distribution system and is in good working order. In checking over a report of George W. Carpenter, Superintendent of the City Water Works, dated January 18, 1854, we find that valves at that time were called stop cocks.

We thought perhaps you would be interested in knowing about your product.

Very truly yours,

William F. Devane
Commissioner

WFD:k



EDDY valves and hydrants not only give the kind of service that Albany's Water Commissioner William F. Devane tells us about—but Eddy can supply repair parts for any and every valve they ever built.

It is important that future long-time service is a part of what you buy. When your municipality embarks on a waterworks modernization program make sure that the capacity and resources of your equipment supplier are such as to assure its maintenance—even for a hundred years.

That's why Eddy is a good company to do business with. Let us give you the facts and figures.

EDDY AWWA fire hydrants offer these advantages

They open smoothly with the pressure, close without water hammer. Entire operating mechanism is easily removed for inspection and repair *by one man*. Standpipe drains by automatic drip action.

EDDY has everything you need for underground water systems

Quickly available are AWWA gate valves, cutting-in valves and sleeves, tapping valves and sleeves. Call your EDDY man for complete details.

EDDY VALVE COMPANY
A Subsidiary of James B. Clow & Sons, Inc.

WATERFORD NEW YORK

Catalogs for You

Write directly to the manufacturers or use Post Card, page 50

Concrete Water Pipe in Longer Lengths

265 Whether you want to keep water in or out—or both—America-Marietta long length concrete pipe with Amseal joints will do it better at less cost. The rubber and steel Amseal joint provides a flexible but positive water-tight seal. Get full information from AMERICAN-MARIETTA CO., CONCRETE PRODUCTS DIV., AMERICAN-MARIETTA BLDG., 101 E. ONTARIO ST., CHICAGO 11, ILL.

Equipment for Handling Coins and Currency

266 *Catalog 67* provides cities with a handy reference for choosing the best in coin and currency handling equipment and supplies. For your copy, write ABBOTT COIN COUNTER CO., 144th ST. WALES AVE., NEW YORK 54, N. Y.

Easy-Loading Scraper

267 Newest addition to the LeTourneau-Westinghouse line of Fullpak scrapers is the Model CT, an 18-cubic yard unit for use with tractors of 90 or more horsepower. It is fully described in literature from LeTOURNEAU-WESTINGHOUSE CO., DEPT., 085, 2301 N. E. ADAMS ST., PEORIA, ILL.

M&M BEAVER

AMERICA'S NO. 1 BRUSH CHIPPER

Cuts Brush Haulaway Costs

No longer is it necessary to wonder what to do with useless brush and branches and the high cost involved in hauling them away. The new M & M Beaver, America's No. 1 Brush Chipper, converts this useless brush, branches, and limbs up to 6" in diameter into wood chips that can be used for mulch, flower beds, fuels, and many other purposes. If the quantities are large enough, paper mills and chemical factories are interested in buying these chips.

For over 100 years MITTS & MERRILL has been manufacturing machinery, wood hogs and brush chippers for the sawmill and lumber industries. The over 100 years of know-how and engineering information thus accumulated is built into the new M & M Beaver which we call America's No. 1 Brush Chipper.

The new M & M Brush Chipper is mounted independently on a well-built steel frame welded trailer so that it can be hauled through rugged terrain such as highways, ditches, fields, and forest clearings. The units are also available independently and can be mounted on trucks or tractors (truck installation shown here).

Cutting is done with 12 small staggered knives equally spaced every 45 degrees over a rotary cylinder. Thus each knife has a smaller impact on machinery, clutches, etc. than machines which have four large knives—90 degree spaced—completely across the cylinder. All moving parts are well guarded for safety yet easy to get to when adjustments are necessary.

If you are interested in the finest machine, the machine designed right and built right and the machine that saves you money, then you will prefer the M & M Beaver, America's No. 1 Brush Chipper. Write today for complete information.

M&M

MITTS & MERRILL • (1003 So. Water Street) • SAGINAW, MICHIGAN

100

Top Efficiency in Refuse Disposal

268 A new sanitary landfill booklet, *Form CR-634-H*, shows how an International Drott TD-9 4-In-1 can be used to operate a sanitary landfill efficiently and economically. This effective unit offers 4-machine utility for a variety of city uses. Write INTERNATIONAL HARVESTER CO., P. O. BOX 7333, DEPT. AC-A-1, CHICAGO, ILL.

Fast Way to Clean Sewers

269 One of the most efficient, economical ways to clean sewers is with this one-piece flexible steel cable. Controlled by an OB power transmission, the Sewerking has a cutting tool at the end which is taken from the storage drum by power, propelled into the sewer and rotated for cutting by power, and rewound in the drum by power. Get full details from O'BRIEN MFG. CORP., 5632 NORTHWEST HIGHWAY, CHICAGO 30, ILL.

Swimming Pool Pumps

270 Designed especially to meet sand and gravel filtration requirements in municipal swimming pools, this new line of pumps offers high-capacity at 30-foot heads for back-washing filters. The F-Series consists of five models ranging from ½ to 1½ hp, suction sizes up to two inches. Get full details in *Form 519* from BARNES MFG. CO., MANSFIELD, OHIO.

Three-Wheel Truckster Does Many City Jobs

271 Use your 780 Truckster for street cleaning and light maintenance; parking control and parking meter service; hauling supplies; garbage collection; and as a service vehicle The Truckster will handle an 800-pound payload easily; operates at a cost of less than a penny per mile. For the full story, write CUSHMAN MOTOR WORKS, INC., 943 N. 21st, LINCOLN, NEBR.

Valves and Hydrants

272 Eddy AWWA fire hydrants open smoothly with the pressure, close without water hammer. The company's AWWA gate valves, cutting-in valves and sleeves, and tapping valves and sleeves, are designed for dependable operation and minimum maintenance. For complete details, write EDDY VALVE CO., WATERFORD, N. Y.

Long Pitch Pintle Chain for Sewage Treatment

273 Use these long pitch pintle chains for grit washers, sludge collectors, scum removers, settling tanks and other units in your sewage treatment plant. These chains are assembled with forged "T" head type pins and cotters. They are fully described in literature from MOLINE MALLEABLE IRON CO., ST. CHARLES, ILL.

Makes Traffic Signs Shine By Night

274 Flex-O-Lite's new 831 reflective sign system is recommended for both white and yellow signs. The improved glass bead is easily applied at low cost to give street-name and traffic signs greater reflectivity and message legibility. A new Storm-Cote protective coating assures improved weather, water, dirt and wear resistance. Write FLEX-O-LITE MFG. CORP., 8300 FLEX-O-LITE DRIVE, P. O. BOX 3066, ST. LOUIS 23, MO.

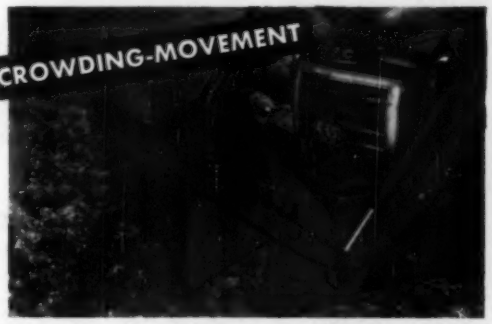
New HOLMES-OWEN TRUCK LOADER

The *Only* LOAD-and-HAUL Unit with *ELBOW-ACTION*

The one factor which gives the HOLMES-OWEN Loader such rugged strength and flexibility of operation is the "Elbow-Action" provided in its lifting arms. Through this exclusive feature, the upward and forward cycle of the bucket can be very accurately controlled, thus permitting a "Crowding-Movement" not possible with other type truck loaders. The ¾ yard bucket is activated by powerful, double hydraulic cylinders. All controls are conveniently located in the truck cab, which enables the driver to handle a wide variety of jobs such as: light digging, grading and loading, without additional manpower or equipment.

There are 3 types of loaders, each adaptable to different kinds of work—the *Standard loader* with a scoop-type bucket is for self-loading and hauling. When equipped with a *Forward-Type bucket*, the unit is capable of loading other trucks, as well as itself. The *Claw-Type bucket* works either forward or backward, but is faster and more efficient since it allows the operators to pick up about 25% more material per bucket. Either type loader can be used with a standard dump truck body and may be installed on most any 2, 2½ or 3 ton truck. Write factory TODAY for details.

Arms flexed in "Elbow-Action". Hydraulic power forces arms forward and upward permitting loading from a standstill without using traction of truck to fill bucket.



Claw-Type bucket showing downward spading action of jaws as bucket engages material in "Crowding-Movement" necessary for loading.

Forward-Tipping bucket permits use in dual capacity—for self-loading as independent working unit or as loader for other trucks.

"Elbow-Action" assures complete inversion and emptying of bucket without spillage or the need for a cab protector.

ERNEST HOLMES COMPANY - CHATTANOOGA 7, TENN.

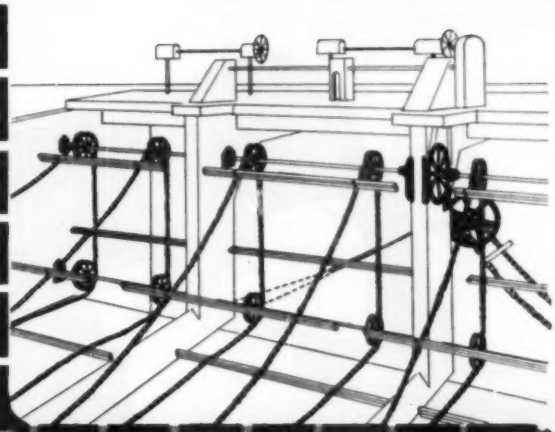
FOR GRIT WASHERS, SLUDGE COLLECTORS, SCUM REMOVERS, SETTLING TANKS AND OTHER UNITS

Moline

long pitch pintle chain for sewage treatment plants...

For a serviceable, long wearing chain at a moderate price, sewage treatment plants prefer MOLINE Long Pitch Pintle Chain. It is assembled with forged "T" head type pins and cotters. This construction prevents the pins from turning . . . prevents the entrance of grit . . . and minimizes wear. Special analysis metal with improved corrosion resistance is available in this chain.

Write for information and prices or phone your local MOLINE representative.

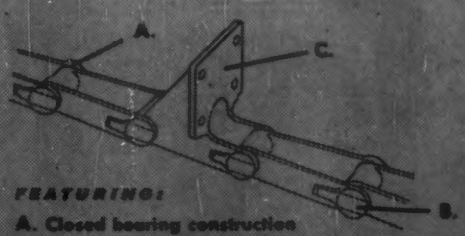


Moline MALLEABLE Chains

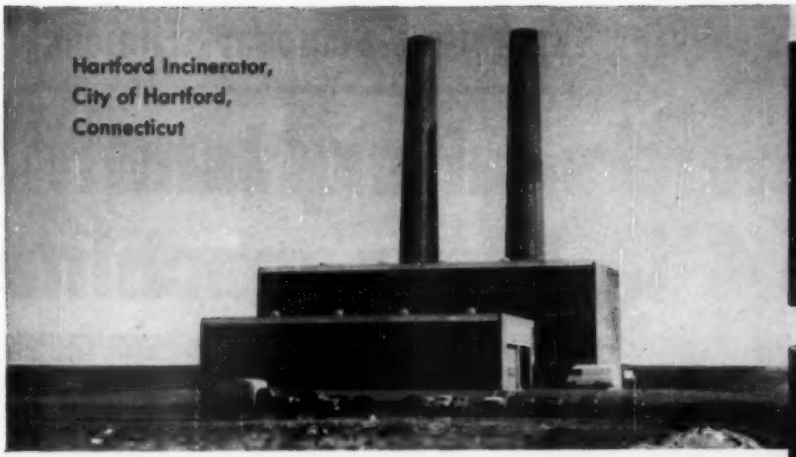
MOLINE MALLEABLE IRON CO.
ST. CHARLES, ILLINOIS

Specializing in the Manufacture of Chains

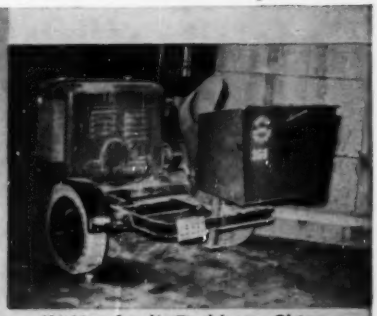
LEADERS FOR 60 YEARS



FEATURING:
A. Closed bearing construction
B. Locked in pins and cotters
C. Attachments for all applications
Greater strength and minimum weight
Interchangeable with "Standard" chains of other manufacturers



Hartford Incinerator,
City of Hartford,
Connecticut



(1) Hartford's Fitchburg Chipper

(2) Fitchburg Chipper in action

Modern Hartford disposal plant uses FITCHBURG CHIPPER

Hartford's new municipal incinerator is used to dispose of more than 400,000 pounds of waste every day. The large picture above shows this efficient, attractive plant—one of the most modern in the nation.

An important part of Hartford's up-to-date disposal program is their portable Fitchburg Chipper, which cleans up disposal jobs the incinerator cannot handle, and goes out on location for road use.

Hartford had these problems:

• *Banana Stalk Disposal* • *Brush Disposal on New Roads*
• *Christmas Tree Disposal* • *Road Clearance from Storm Damage*

How a Fitchburg Chipper solves these problems:

Joseph J. Coffey, Superintendent of the Hartford Incinerator, tells you in his own words how Hartford solves these problems: BANANA STALKS: "We chip 2 to 4 tons of banana stalks each week. These stalks will not burn regardless of heat in the furnaces, and we had to dump them until the Fitchburg Chipper went on duty." CHRISTMAS TREES: "During the post-Christmas season we receive many Christmas trees which we can now get rid of without the trouble of watching for burnt-down spike-like stubs which cause much trouble with the incinerator equipment."

BRUSH DISPOSAL: "Our Highway Division has used our Fitchburg Chipper to clean up the brush and branches along newly developed road areas. By chipping brush, the city saves in use of both manpower and trucking costs." ROAD CLEARANCE: "If we get hit again by hurricanes or bad wind storms, we now have an excellent piece of equipment that will enable us to readily open up the streets for emergency traffic by reducing the fallen branches to chips."

As to maintenance, Mr. Coffey says: "Our Fitchburg Chipper will pay for itself in a very short time. Maintenance, so far, is just keeping it supplied with gasoline and fully lubricated. It is easy to handle, easy to store, and very easy to use."

Get the facts! **Mail coupon for big, FREE, colorful booklet.** Specifications, operating data, explanation of exclusive Fitchburg Safety Spring, actual letters from users.

FITCHBURG ENGINEERING CORPORATION

Read what leading Fitchburg users say

LINE CLEARANCE

The Shade Tree Service Company, Webster Groves, Mo.: "Our figures show that production has been increased by a good 25% with the use of the Fitchburg Chipper. One man can operate the chipper with ease. He alone can handle as much, and more, brush in the same length of time as could two men loading brush on a platform body."

POWER COMPANY

Rockland Light and Power Company, Nyack, N. Y.: "Our men have been particularly pleased with their Fitchburg Chippers. They are rugged and reliable and the convenience of flexible, yet instant brush disposal has the advantage of promoting good public relations and still gives us efficiency."

Send for FREE BOOKLET

Fitchburg Engineering Corporation
Fitchburg, Mass., Dept. AC-18

Send my Free Chipper Booklet.

Name_____

_____
(Position or Company)

Address_____

City_____ State_____

Tip to city officials seeking top refuse-disposal efficiency:

why more sanitary landfill choose 4-in-1 four-machine

The 4-In-1, in Bullclam position, covers compacted refuse uniformly —the way that saves dirt and time, and wins health authority approval!

Here's the Carroll and Peterson TD-9 4-In-1 spreading refuse on one of their sanitary landfill terraces.

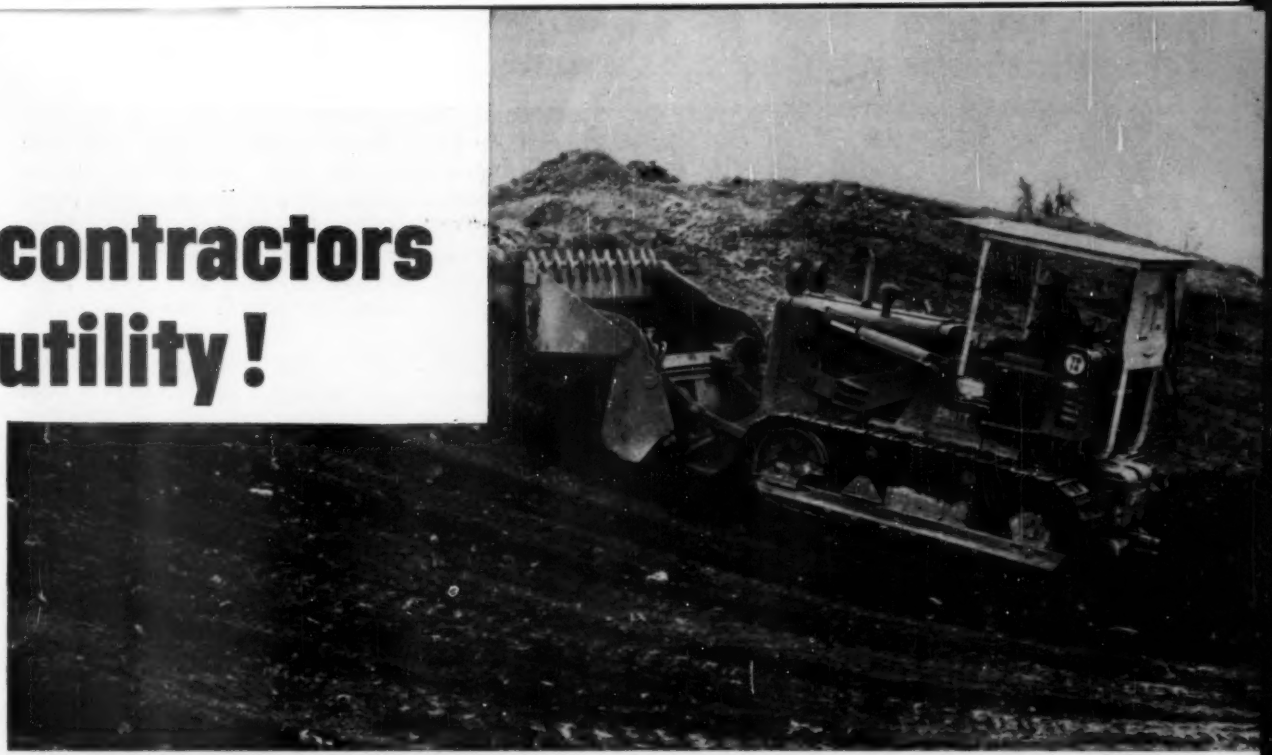
"Saves dirt...suits health officials!"

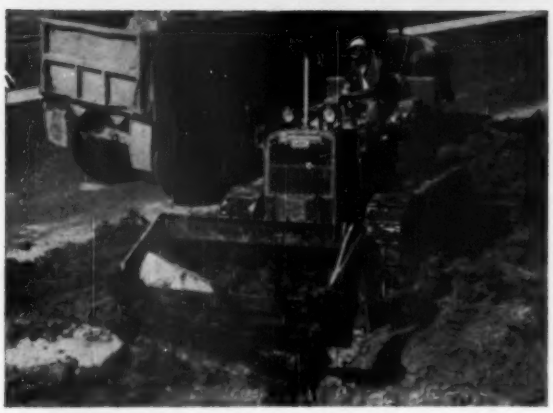
The firm of Carroll and Peterson, Spokane, Washington, uses an International Drott TD-9 4-In-1 to operate a sanitary landfill—in eastern Spokane county. Their terrace-type landfill is in a 45-foot deep ravine. The disposal benches are compacted, then covered daily with six inches of soil.

Partner Bill Peterson reports:

"Here's the right machine for maintaining a sanitary landfill. It saves dirt compared to a regular dozer, yet the health authorities say we are doing a better job of refuse disposal. We can also use the loader to load out sand trucks, and the clamshell action to lift heavy objects. I'd hate to do sanitary landfill work using any other machine than the 4-In-1!"

contractors utility!





Just as handy "anywhere else in town"! You can use the 4-In-1 just as easily to load surfacing materials economically—use it on street work, drives, parks, cemeteries. Use the 4-In-1 machine actions to excavate, strip, grade, spread, bulldoze, landscape, clear land—do dozens of municipal jobs, plus refuse disposal.

Prove the unmatched capacity, economy, and all-around efficiency of 4-In-1 sanitary landfill refuse disposal for your community. See what it means to get 4-machine utility for all city uses, for one moderate investment! Or, find out why the International Drott Bullclam is first choice of larger cities, for full-time, large-capacity refuse disposal. See your International Drott Distributor for a demonstration!

International Harvester Company, Chicago 1, Illinois
Drott Manufacturing Corp., Milwaukee 15, Wisconsin

INTERNATIONAL® DROTT®

Here's the TD-14 4-In-1, owned by Joliet Garbage Service, spreading cover on compacted refuse with bulldozer action. They use all four actions, every day!

"Twice as fast"

"I spread, roll, and bury refuse twice as fast as before... with the TD-14 4-In-1," states C. A. Moore, equipment operator for Joliet Garbage Service.

This contractor collects and disposes of garbage and rubbish from municipalities (including Joliet)—within a 20-mile radius of the landfill site near Rockdale, Illinois. Upwards of 800 cu yd of refuse is disposed of daily with the TD-14 4-In-1 which also builds landfill roads, loads trucks, does many other jobs!

"I never would believe that one machine could handle our sanitary landfill," adds Mr. Moore. "But every part of the job is easier now with the 4-In-1. Road work is child's play. The clamshell is most useful."

Send for New Sanitary Landfill Booklet

International Harvester Company,
P. O. Box 7333, Dept. AC-A-1
Chicago, Illinois

Gentlemen: Please send me a copy of your new Sanitary Landfill booklet (Form CR-634-H).

Name_____
Street_____
City_____
State_____

packs to rated capacity ...then packs even more!

That's right! There's *bonus capacity* in every size M-B Packer Body . . . a *plus value* that gives you more route time, because of fewer trips to the dump. The secret is simple . . . simple design that allows more tons to be packed into the body than other units of the same rated capacity. ▪ The spacious, van-type body has smooth inside surfaces eliminating space-wasting voids. And nothing could be more simple . . . more effective . . . than the powerful, cable operated packer plate. The packing process is a *progressive* action . . . as the load builds up, previous loadings are compacted again and again . . . assuring the most

tightly condensed, solid load, from top to bottom, front to back. ▪ Simple design throughout, and the elimination of a heavy, complicated hydraulic tailgate, means that the packer body can be mounted on a shorter wheelbase, shorter cab-to-axle truck having a lower G.V.W. You get a body that weighs less per cubic yard of capacity . . . you haul more *payload*, less deadweight. ▪ No matter what the load . . . refuse, garbage, trash . . . M-B Packers give you this *bonus capacity* that other units just can't offer. In addition, you get more benefits like fast, safe side-door loading . . . fewer compaction cycles . . . faster, safer, cleaner dumping . . . and dozens of other job-proved advantages. ▪ Why wait any longer? Ask your helpful M-B distributor to set-up a demonstration of the low cost M-B Packer on your own routes . . . call him now!

M-B Corporation, New Holstein, Wis.

M-B equipment for cleaner, safer living
8 Models of Line Markers to Fit Every Striping Job
Tractor-Mounted and Pull-Type Sweepers
Versatile Truck Loader with Powerful Jaw Action

M-B CORPORATION
NEW HOLSTEIN, WIS.
MANUFACTURERS OF QUALITY MUNICIPAL AND CONSTRUCTION EQUIPMENT since 1907

ATLANTA PLANS AHEAD FOR ITS FUTURE WATER NEEDS

Fast growing Atlanta, Ga., is one of many forward-looking cities in the U. S. A. which is making sure today that there will be no water shortage in the years ahead to retard city progress.

For the past five years, Atlanta has carried on a planned expansion of its water system under the direction of Mr. Paul Weir, general manager of the City's progressive Department of Water Works. Approximately 85 miles of cast iron distribution and feeder mains have been laid each year.

Present daily water requirements of Atlanta are 60 million gallons. By 1960, it is estimated they will be 68 million gallons, and by 1970, 90 million gallons.

When your community plans extension or improvement of its water system, be sure to specify —

Permanent CAST IRON PIPE

"America's No. 1 Tax Saver"

No other pipe has ever matched its proven record of longevity, dependability, low maintenance cost and long run economy. That's why it has long been known as "America's No. 1 Tax Saver."

Our Company does not manufacture Cast Iron Pipe but supplies many of the nation's leading foundries with quality pig iron from which quality pipe is made.

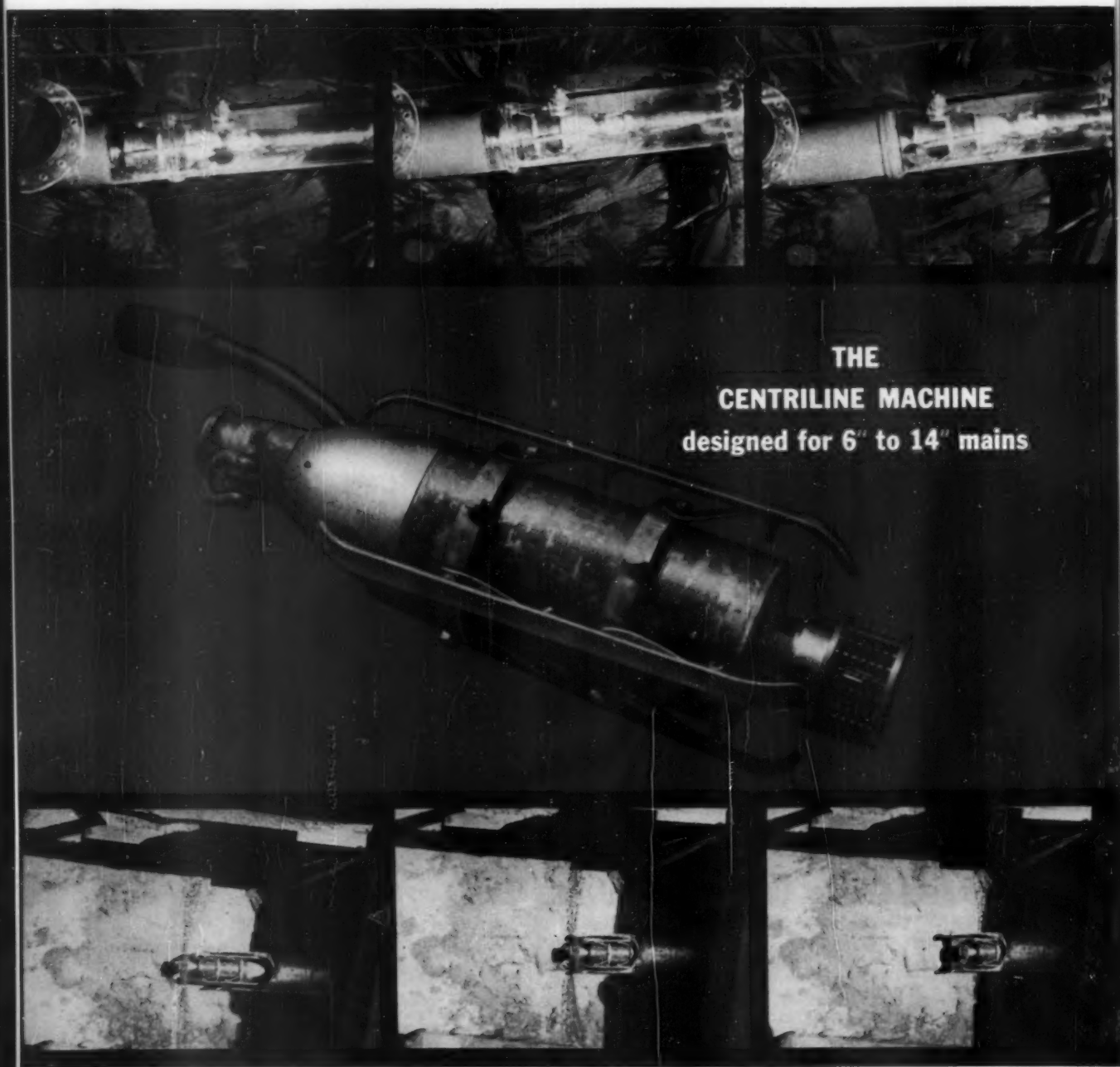
WOODWARD IRON COMPANY

Since 1882

WOODWARD, ALABAMA

Announcing the most revolutionary development

NOW! THE CENTRILINE PROCESS

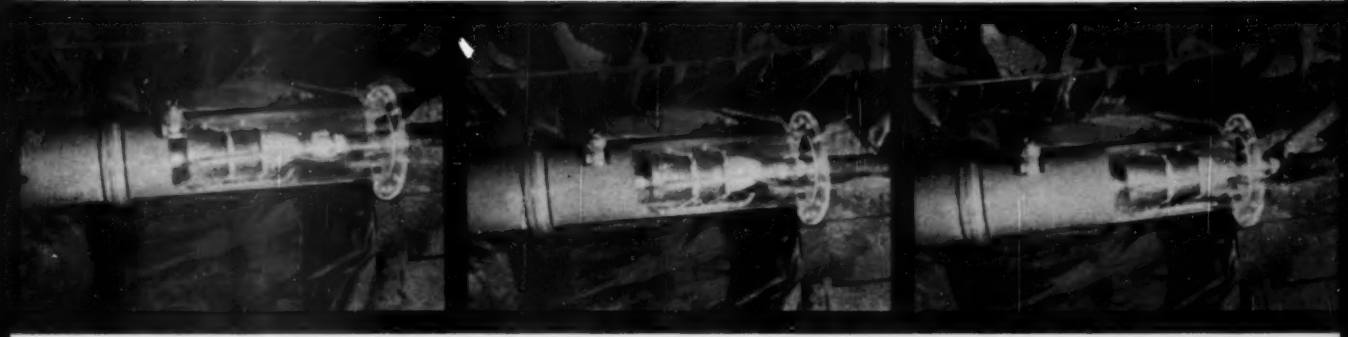


STRIP PHOTO • TOP: *Cross section view, in special transparent pipe, showing new small size Centriline machine in action being pulled through the pipe from left to right. Note the uniformity of the cement-mortar lining.*

STRIP PHOTO • BOTTOM: *View of machine at work in special cut away pipe illustrating centrifugal application of the cement-mortar.*

in the water works field in the past 15 years!

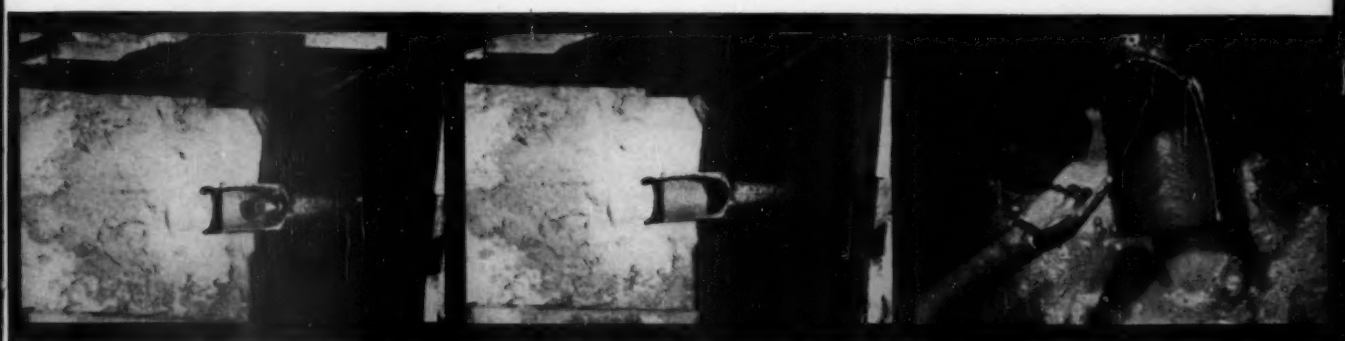
is also available for 6″ to 14″ mains



NOW, for the first time, your city's small but important transmission and distribution lines, including those used for fire protection, can regain their original flow capacity and pressure through the famous Centriline Process. A smaller version of the Centriline machine has been developed for use in 6″ to 14″ mains.

Here is how Centriline rehabilitates water systems' distribution grids. First, the pipes are cleaned to remove all tubercules, scale and loose materials resulting from corrosion. The Centriline machine is placed in the pipe and mortar is forced into a rapidly revolving head which applies a uniform coating on the pipe wall by centrifugal force. The thickness of the lining can be regulated by careful control of the machine. All of this is accomplished with a minimum of interruption to surface traffic, since the pipes are lined in place!

The advantages of using the new, small diameter Centriline machine in your mains are numerous. The new machine has a design feature which eliminates most excavations at valves, laterals and corporation cocks. The cost is lower than ever before. In addition, Centrilining permanently prevents future tuberculation, corrosion or leakage . . . reduces maintenance and pumping costs . . . raises distribution pressures and efficiency and extends the life of steel or cast iron pipe indefinitely. Send today for your free copy of our illustrated booklet which fully describes how Centriline can help you salvage worn out water lines of every size.



CENTRILINE CORPORATION

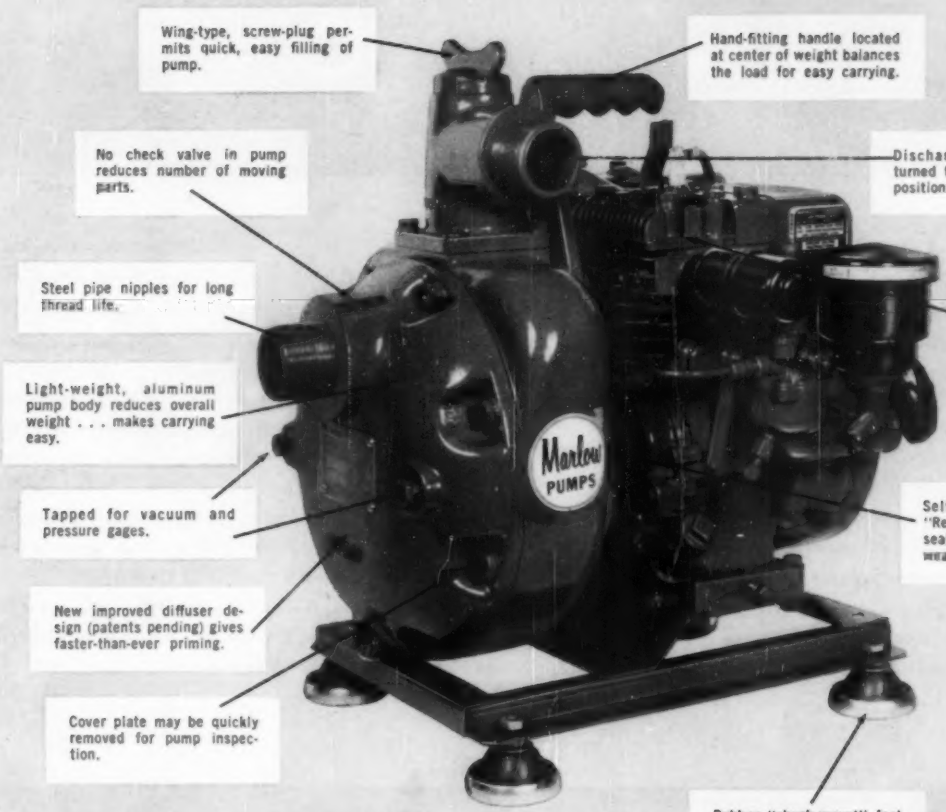
A Subsidiary of Raymond Concrete Pile Company

140 Cedar Street
New York 6, N.Y.
WOrth 2-1429

Branch Offices in Principal Cities of the United States, Canada and Latin America

Two great

LIGHT-WEIGHT, SELF-PRIMING, UTILITY PUMPS

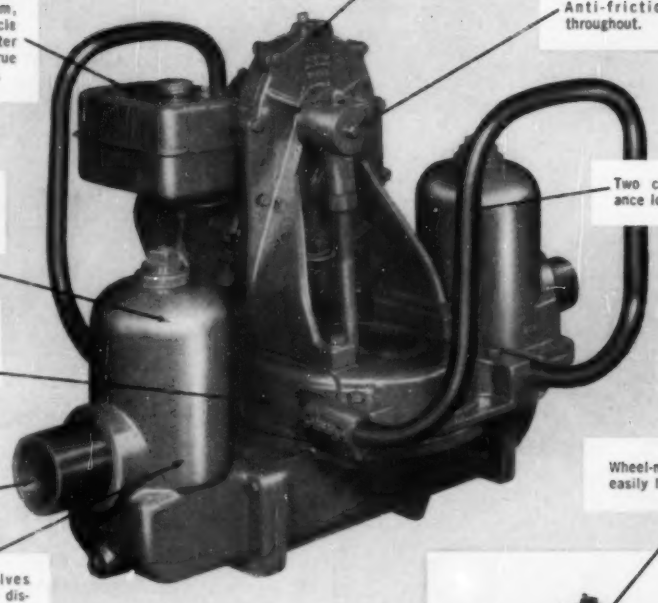

Wing-type, screw-plug permits quick, easy filling of pump.
Hand-fitting handle located at center of weight balances the load for easy carrying.
No check valve in pump reduces number of moving parts.
Discharge outlet may be turned to any one of three positions.
Steel pipe nipples for long thread life.
Light-weight, aluminum, Briggs & Stratton, 4-cycle engine with recoil starter and valve rotators for true portability and long life.
Light-weight, aluminum pump body reduces overall weight . . . makes carrying easy.
Marlow PUMPS
Tapped for vacuum and pressure gages.
Self-lubricating, long-life "Remite" mechanical shaft seal eliminates leakage and wear.
New improved diffuser design (patents pending) gives faster-than-ever priming.
Cover plate may be quickly removed for pump inspection.
Rubber "shock-mount" feet.

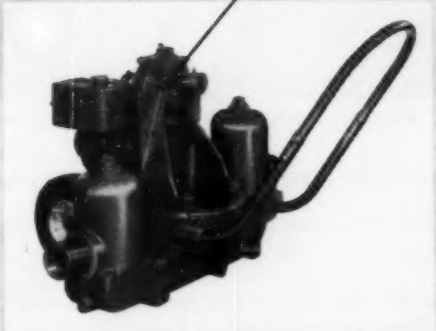
Marlow PUMPS

These great, new, fast-priming Marlow Utility Pumps are available in 1½" and 2" sizes. These all-aluminum pumps are extremely light in weight and easy to carry. The 1½AA1 Model weighs *only 49¾ pounds*, while the large 2AA1 weighs 52½ lbs. Compact in size, the 2" unit is only 16¾" high by 18" long by 14¾" wide, the units can be stowed easily in existing truck compartments. Write today for complete information and the name of your nearest Marlow dealer.

new pumps!

LIGHT-WEIGHT "MUD-HOG" DIAPHRAGM PUMPS


Heavy-duty, heat-treated gears, running in a bath of oil, operate diaphragm through a crank-type drive.
Light-weight, aluminum, Briggs & Stratton, 4-cycle engine with recoil starter and valve rotators for true portability and long life.
Anti-friction bearings throughout.
Air chambers on both suction and discharge for smoother operation.
Two carrying handles balance load for easy handling.
New, all-aluminum construction makes units readily portable.
Steel pipe nipples for long thread life.
Heavy-duty, pump valves on both suction and discharge for long service life.



The new Model 302B light-weight "Mud-Hog" can be arranged either with or without wheels. The wheel-mounted model weighs 137 pounds while the base-mounted unit *weighs only 126 pounds*. Both units are compact in size. These fast-priming pumps have 3" suction and discharge ports. They can handle trash-laden and muddy water with ease. For complete details, write today for brochure and the name of your Marlow Dealer.

Marlow PUMPS

DIVISION OF

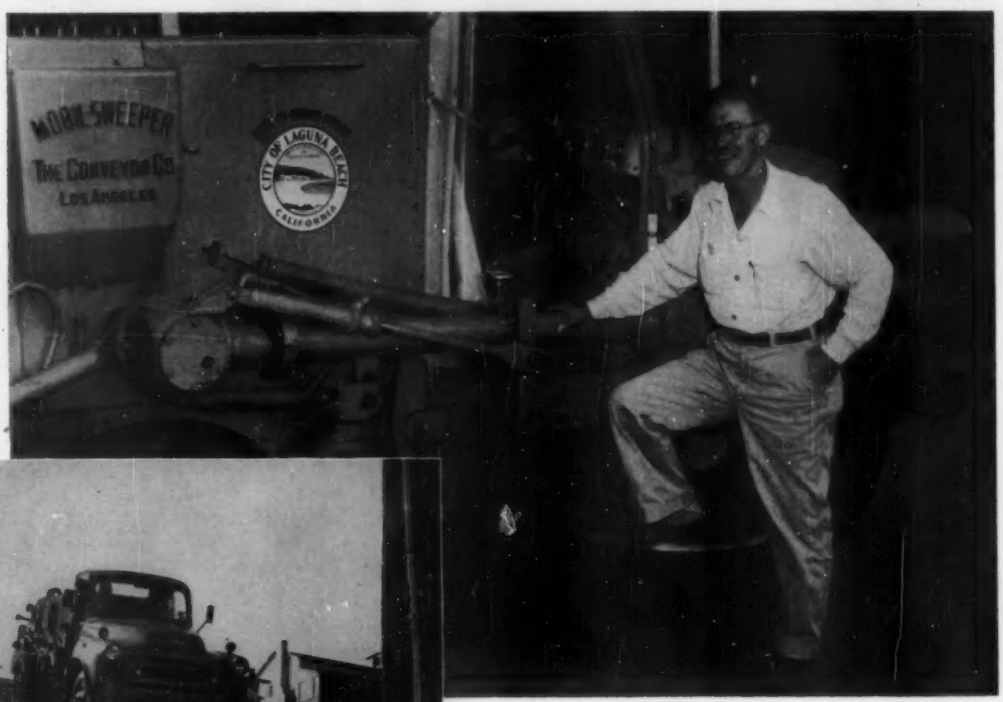
BELL & GOSSETT CO.

Midland Park, New Jersey

Longview, Texas • Morton Grove, Illinois

7-423

LAGUNA BEACH CLAIMS TOUGHEST SWEEPING CONDITIONS...



Laguna Beach Street Superintendent, Frank Goddard, checks over city's Mobil Sweeper

Acacia Drive, one of several 30% grades in Laguna Beach

Even so—Mobil Sweeper keeps streets the cleanest

THESE ARE THE CONDITIONS:

Mountainous 30% grades . . . twisting hillside roads . . . and congested business streets by the sandy seashore. Laguna Beach Public Works officials demanded a sweeper equipped for maximum safety and rugged endurance for hillside operation . . . combined with short turn maneuverability and dependable sweeping performance to keep this picturesque town spotlessly clean.

Only Mobil Sweeper with the stability of 4-wheel design, safety of 4-wheel brakes and unsurpassed sweeping efficiency proven in hundreds of cities, under all conditions, could meet the challenge successfully.

Laguna Beach gains other savings, too—by delivering all refuse direct to the dump with the high speed Mobil Sweeper. The 4-wheel design is easier on black-top pavement—straddling the gas and oil soft spots left by parked cars.

Your community can benefit from the performance and economy of a Mobil Sweeper.

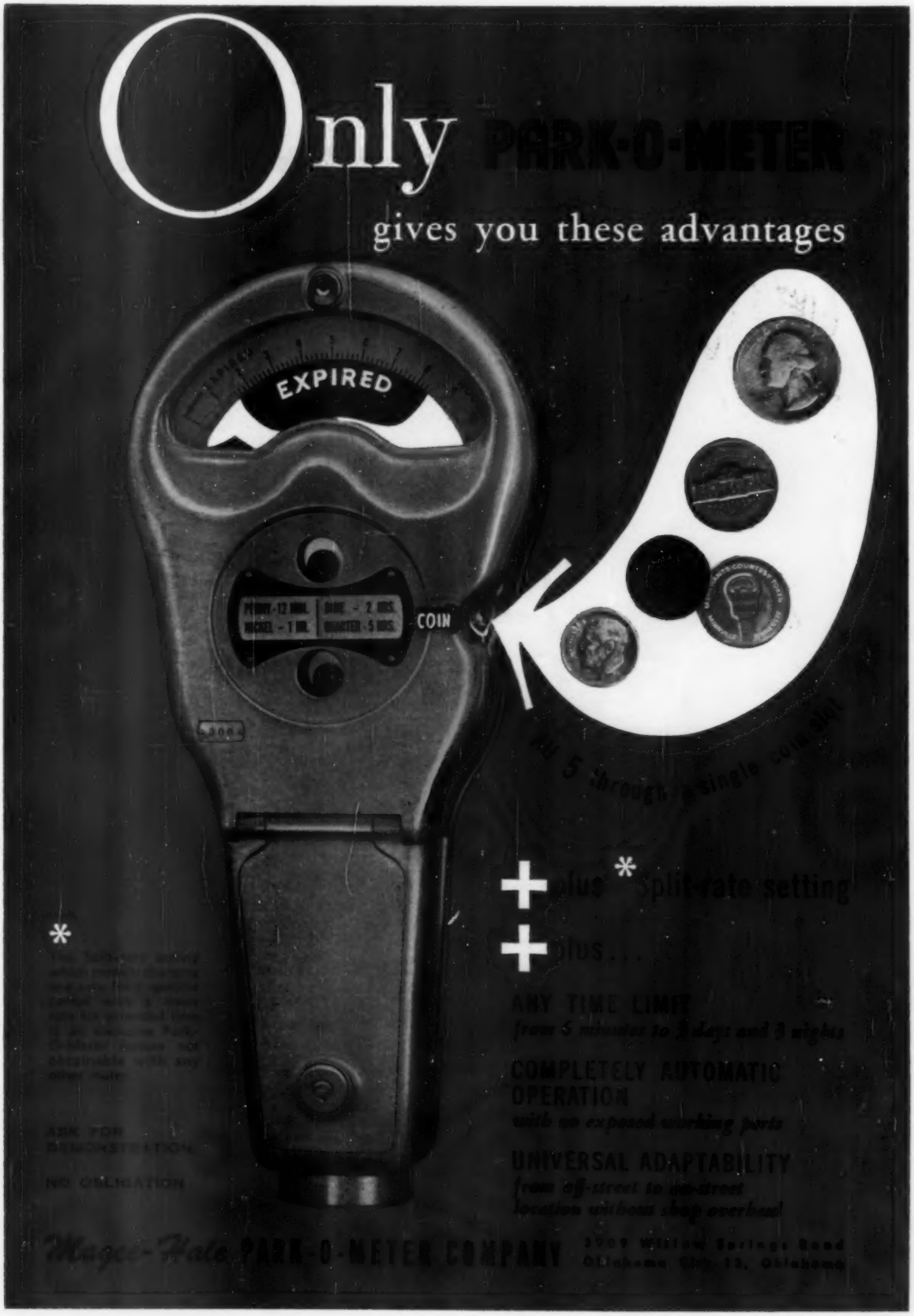
Write for Free Brochure AC-1 today!

CONVEYCO

MOBIL SWEEPER®

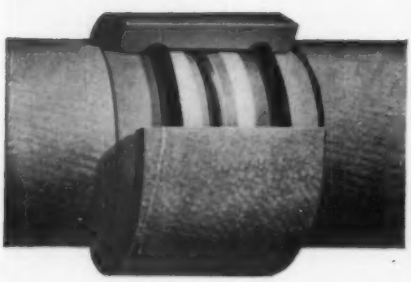
DIVISION OF THE CONVEYOR CO.

3260 E. SLAUSON AVE. • LOS ANGELES 58, CALIF.


Only PARK-O-METER
gives you these advantages
EXPIRED
COIN
PENNY - 12 MINS.
NICKEL - 1 HR.
DIME - 2 HRS.
QUARTER - 5 HRS.
ANY TIME LIMIT
COMPLETELY AUTOMATIC OPERATION
UNIVERSAL ADAPTABILITY
Mage-Hale PARK-O-METER COMPANY

THE MODERN PIPE JOINS TIGHT IN RAIN OR SHINE

"K&M" ASBESTOS-CEMENT PIPE and exclusive FLUID-TITE Coupling



Exclusive sealing rings are the secret of the "K&M" FLUID-TITE Coupling installed with "K&M" Asbestos Pipe. All "K&M" couplings and pipe are hydrostatic pressure-tested to 3½ times the rated operating pressure!

No need to wait for dry skies or a dry trench before installing "K&M" Asbestos-Cement Pipe. Wherever water is to be piped under pressure, "K&M" Pipe is the modern answer. The exclusive FLUID-TITE® Coupling makes installation quick, easy—and permanent.

No special equipment; little skill needed. Just two easy steps: 1. Lubricate rubber rings; 2. Slide pipe into coupling. It is watertight immediately. The FLUID-TITE Coupling allows deflection up to 5° at each joint. Installation and maintenance costs go down when you specify the *modern* pipe and coupling . . . "K&M."

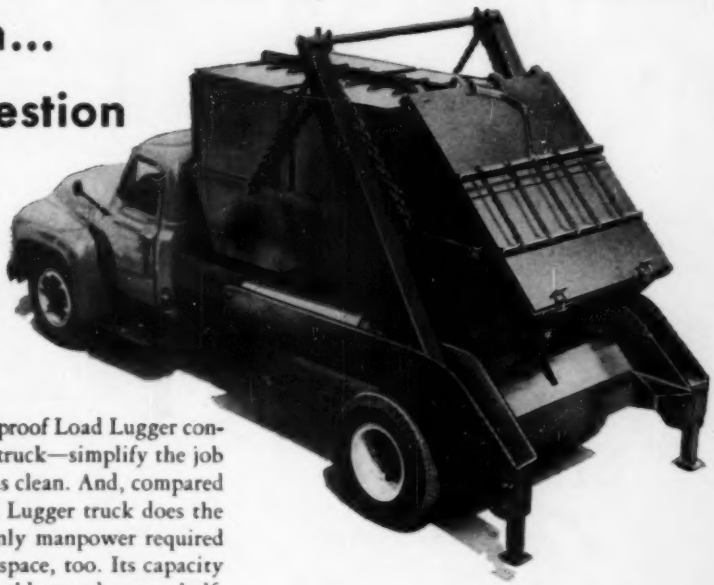
Meets specifications. "K&M" Pressure Pipe meets A.W.W.A., A.S.T.M., and U.S. Federal Specifications, and has Underwriters' Laboratories approval for all sizes (pipe and couplings) in Class 150.

Learn the advantages of the *modern* pipe from the K&M distributor. Or write to us for complete information, including a Flow Chart for "K&M" Pipe based on the Williams and Hazen formula.

KEASBEY & MATTISON
COMPANY • AMBLER • PENNSYLVANIA

K·M
BEST IN ASBESTOS

Solves garbage and rubbish collection problems... improves sanitation... relieves alley congestion

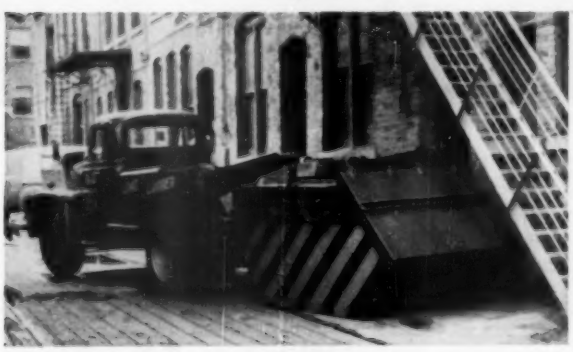


Fully enclosed Load Lugger containers have deep, leak-proof bottoms. Rubber-sealed doors optional.

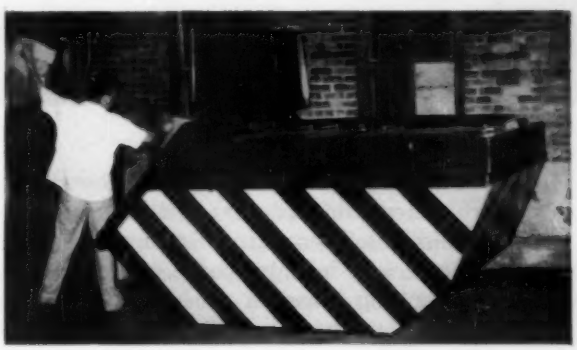
THE LOAD LUGGER SYSTEM

Patented steel leak-proof, odor-proof, vermin-proof Load Lugger containers—serviced by a Load Lugger equipped truck—simplify the job of keeping city commercial and industrial areas clean. And, compared to other methods, cost is low. A single Load Lugger truck does the work of a dozen conventional trucks. The only manpower required is the driver. A Load Lugger container saves space, too. Its capacity is sufficient to neatly hold rubbish which would spread over a half-acre of ground.

It will pay you to look into the many other cost-cutting advantages of the Load Lugger system. We will be glad to study your situation and make recommendations. Why not contact us *now*?



This Load Lugger container gives six business houses and eight apartments sanitary, fire-safe, rodent-proof storage of waste material.



No wrestling with messy garbage cans *here*! Load Lugger container is easy to charge from a waist-high level. Area is free of litter and combustible materials.

LOAD LUGGER

BW

LOAD LUGGER, Ingersoll KALAMAZOO DIVISION
BORG-WARNER CORPORATION
1971 North Pitcher Street, Kalamazoo, Michigan, Telephone Fireside 5-3501
EXPORT SALES: BORG-WARNER INTERNATIONAL CORPORATION, CHICAGO

Mack is first again! First to build and deliver custom fire engines with automatic transmissions. These transmissions more than earn their way in improved performance, in faster running times, in easier handling, and in reduced maintenance costs. Here's how:

Smooth, unbroken flow of power through the entire acceleration range. No jerks, no jumps as the torque ratios move from over 5½ to 1 . . . to 1 to 1. As soon as the 1 to 1 ratio is reached, engine power is automatically transferred—with no interruption—to direct drive, by-passing the converter entirely and eliminating the slippage common to automatic transmissions in this torque ratio. Acceleration from 0 to 35 mph in 16 seconds.

Non-shift operation, not only through the entire torque ratio range, but in and out of direct drive as well. The speed at which this transfer occurs is controlled by an adjustable governor, permitting you to pick the most efficient direct-drive speed for the type of vehicle and type of service.

Hydro-dynamic braking that can increase normal engine braking power up to 400% when in automatic drive.

Non-stall operation. Full torque of the engine is immediately available even when the vehicle

Mack's new cab-forward triple combination pumper with Mack automatic transmission and famous Mack Thermodyne® engine —the "perfect pair." 5-man canopy cab. 1250-GPM cab-mounted portable deluge nozzle, 375-gallon booster tank, 300 feet 1" booster hose and fog nozzle.

give *finest fire apparatus performance*

is standing still or inching along in traffic. Engine cannot lug or stall, absorbs no sudden shocks from fast accelerations, greatly increasing life of the entire power train.

Shorter training periods for new drivers—drives like the family car. And clutches can't be burned out, gears can't be stripped by inexperienced men.

Direct drive pumping by-passes the transmission, feeds 100% of engine power to the pumping unit.

Whether you're interested in purchasing the most modern, efficient equipment available . . . or whether you'd like to keep abreast of the latest developments in fire-fighting equipment—you'll want to hear more about Macks with automatic transmissions. Get in touch with your Mack representative today. Mack Fire Apparatus, Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

MACK

first name for

FIRE APPARATUS

5606

WAGONS . . . AERIALS 65' TO 100' . . . COMBINATION LADDER TRUCKS

Only PAYLOADER® can give you

as a Side Boom . . .

. . . this new SUPERIOR-HOUGH boom attachment further increases the all-around usefulness of a "PAYLOADER" tractor-shovel. A Hough exclusive on rubber-tired units, it *adds* a handy lift-and-carry facility, lets the "PAYLOADER" alternate between boom and bucket work at any time.

You can load, unload and string pipe, carry girders and sheet steel, handle piles and poles . . . or, dig and backfill dirt, load dump trucks, charge hoppers and the like — all without any time loss to change attachments.

Available for the big model HO "PAYLOADER", this side boom has 6000 lb. capacity, its 10 ft. length can be telescoped to 16 ft. maximum. This, combined with the sturdy 4-wheel-drive tractor-shovel performance, provides an economical one-machine answer to many construction and maintenance problems.

Big rubber tires permit working on pavement, over sidewalks and curbs without damage; 4-wheel-drive tractive power qualifies it for cross-country work as well.

PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY

1-8-1 A

as a Spreader . . .

. . . another new and exclusive attachment that multiplies the work-ability of "PAYLOADER" tractor-shovels. Substitute this Ram Spreader attachment for the bucket and you have an economical unit that lays down 8-ft. wide strips of hot or cold mix asphalt in a single pass.

You can use it to place new pavement, to do resurfacing or patch work on streets, driveways, alleys, sidewalks, playgrounds, parking lots. Attached to the maneuverable "PAYLOADER", the machine can work in close quarters where pavers and trucks can't operate.

Spreader features include a 2-cu. yd. capacity hopper that is independently suspended on four pneumatic tires. A separate air cooled gas engine provides pressure for the hydraulic motor drive of the twin 8" diameter augers and for all hydraulic control cylinders.

Operator has convenient control levers to adjust main feed gate, thickness and width. Sliding type gates adjust for widths to 48 in.; gates are removed for 8-ft. width. See your nearby "PAYLOADER" distributor for complete details.

PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY

1-8-1 B

this Versatility, Speed and Economy

as a 4-in-1 . . .

. . . a "PAYLOADER" handles many jobs other wheeled tractor-shovels can't touch. Equipped with a DROTT "4-in-1" bucket, it combines shovel, clamshell, scraper and bulldozer action in a single tool.

The "4-in-1" actually gives you the utility performance of four machines *plus* the mobile speed and tractive power of a 4-wheel-drive tractor-shovel. "PAYLOADER" is the only rubber-tired tractor-shovel available with this patented "4-in-1" bucket.

This combination of rubber-tired tractor mobility and bucket versatility provides complete on-job flexibility. You can dig, carry and dump (shovel) . . . pick-up, grasp and handle (clamshell) . . . scrape, strip, grade and spread (scraper) . . . backfill, clear and doze (bulldozer).

Reliable 4-wheel-drive "PAYLOADER" performance is assured by power-transfer differentials, "no-stop" power-shift transmission and torque converter, planetary final drives, power-steering and power-brakes plus exclusive 40° tip-back at ground level.

PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY

1-B-1 C

as a Back Hoe . . .

. . . the "PAYLOADER" becomes a mobile trenching unit. With a quick interchange of bucket and hydraulically operated Wain-Roy hoe attachment it can work in a 190° radius, dig to 12' depth to install service connections, foundations, bell-holes and footings easily and economically. It can dig and dump at any angle up to 95°, right or left—a valuable feature in close quarters and heavy traffic areas.

The unit operates with only four control levers. Twin hydraulic cylinders provide a powerful digging and break-out force. Self-leveling hydraulic stabilizers relieve the tractor of undue strains. The extra work capacity you get with this back-hoe attachment at a nominal investment is worthwhile.

For Your Convenience . . .

PURCHASE AND **HOUGH** LEASE PLANS

Now your Hough Distributor has at his disposal the broadest and most complete set of financing plans ever offered: — TIME PAYMENT . . . LEASING PLANS,* with or without OPTION TO PURCHASE — any and all kinds of financing to best fit your needs for the purchase of "PAYLOADER" equipment. See him today!

* (Available in Continental U.S.A.)

1-B-1 D

FOR BETTER RESULTS
WITH LESS TROUBLE
...PICK *ONE*
INSTEAD OF TWO

1½" or 2" Style 3 Meter matches performance of complicated compound . . . with less cost and fuss

For 1½" and 2" water service lines, the Trident Style 3 meter is simpler, costs less to buy and maintain, is every bit as accurate, and produces just as much revenue over a wide range of flows as any compound, including our own. Trident was *first* to give you an easy-to-set pressure adjustment. And since modern Style 3 parts fit older meters, there's never any obsolescence.

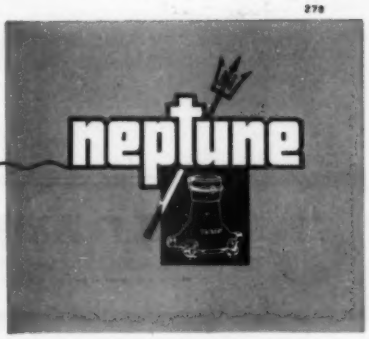
So why put up with the fuss and expense of *two* measuring units when *one* Style 3 will do the job? You'll find conclusive evidence in your own records . . . or ask your Neptune man.

279

NEPTUNE METER COMPANY
19 West 50th Street • New York 20, N. Y.

NEPTUNE METERS, LTD.
1430 Lakeshore Road • Toronto 14, Ontario

Branch Offices in Principal American and Canadian Cities.



JANUARY 1958 The American City

This is the new, all-purpose Park and Shade Tree utility truck.

Park, fire, police, and street and sewer departments can use this . . .

All Purpose Park and Shade Tree Truck

By E. F. BRARMANN, JR.
Superintendent of
Parks and Shade Trees
Englewood, N. J.

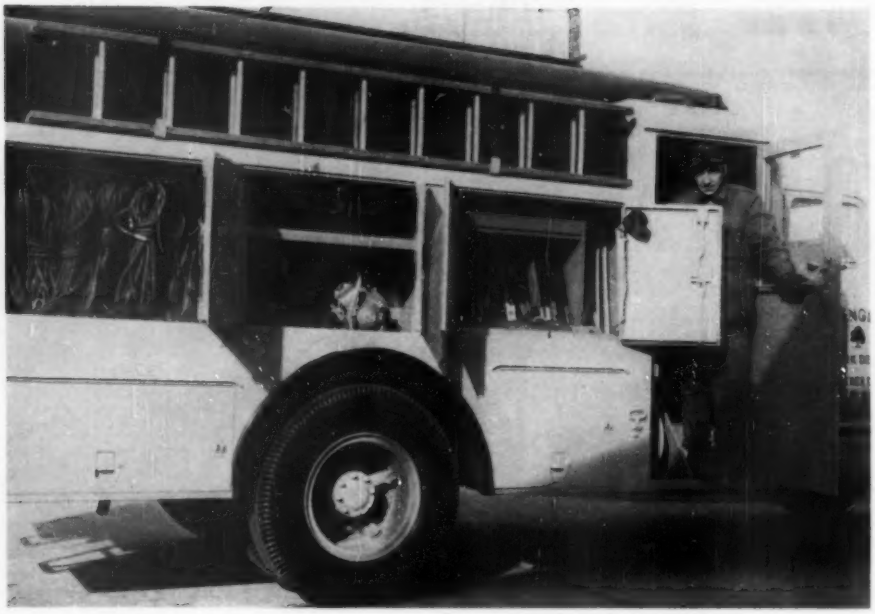
IN a city no larger than Englewood, the Park and Shade Tree department normally can expect trouble getting an all-around service truck like ours if the truck does park work only. But when we showed that such a truck can be on call constantly for emergency service with the departments of Fire, Police, and Public Works, and also for civilian defense, we developed enough outside support to keep the nearly $17,000 for the truck, completely equipped, in the equipment budget.

The truck represents more than five years of study by members of our department, and about 1½ years of active design work. With it in operation, our shade-tree crews can perform virtually any task normally assigned to it and, in addition, some rather unusual assignments.

For a chassis, we use a GMC, Model 634 with a gross vehicle weight of

Generators, power saws, floodlights, gas—some of the units stored in special compartments on the left side of the truck.

Aluminum extensions provide a convenience in using jacks when steadying the truck when the winch and boom are used.



On the right side, the crew has access to a five-man personnel cab.

27½ tons. The chassis has Bendix-Westinghouse air brakes with a buzzer warning in the cab when air pressure drops below 60 pounds. On this chassis, we placed a utility type body made by Mason & Kriz of Englewood, built to our specifications.

One of the first individual requirements was a control panel placed in the cab at a location convenient to the driver. This panel is on the seat near the left door; it has eight separate switches, operating as follows:

one—main emergency light
three—for running and emergency construction lights, and blinker
one—for the personnel cab back of the driver's cab
one—to light the main body
Two—to control lights for the generator cabinets.

Each side of the body is fitted with compartments designed to receive our specialized equipment. On the left, or driver's side, near the cab is a compartment holding a Disston 2-man chain saw. Further back, we have a 2,500-watt 115-volt AC Homelite gasoline-powered generator with connections directly to each corner of the truck. We have a Homelite high-cycle generator on the other side; both can be removed.

In the compartment above this, we have provided 200 feet of floodlight cable that can be plugged into the generator. We also have four 1,000-watt Radiant portable floodlights. In the adjoining compartment we have an Audio Equipment loudspeaker that is particularly helpful to the foreman in communicating with crewmen in the trees. In the past, the foreman would have to shout, and often his orders were hard to distinguish from those of other members of the crew. Now the man in the tree has no trouble.

We also have gasoline and oil stored in a compartment behind the left rear wheel. Above this are compartments holding various kinds of safety equipment, such as "witches hats" and other warning devices. We have an extension ladder on the side mounted on brackets that can swing down, making it easier to remove, particularly for the smaller men.

This eight-unit panel board controls all the running and warning lights.

On the other side, we have a rope cabinet, and each set of ropes is bound with a distinctive color to identify it with the man to whom it is assigned. We follow the same practice of coloring each man's saws, axes, and other equipment so that he can identify and care for his own. Below this, we have provided storage for cables, chains, and the jacks necessary to hold the truck steady when the boom operates.

Power Saw Storage

In the compartments directly above the right rear wheel, we have two storage spaces, each holding a one-man Homelite chain saw. One is electric powered with a high-cycle motor; the other is a model 7-29 gasoline saw. In the adjacent compartment forward, we store the tree-limb saws, axes, and climbing hooks. Directly below this is the other 2,500-watt Homelite generator. Immediately adjacent to this, in the personnel cab forward, we have stored 100 feet of cable for use by the electric saw.

The personnel cab, located immediately behind the driver, can hold five men comfortably. It has only one door, plus an overhead escape hatch. At the men's suggestion we installed additional features; one is a Snelling water cooler for drinking. Because

some commented that water would drip on the floor, we provided a floor drain. And since we use paper cups and some men thought this would lead to a littered floor, we have a bucket to receive the cups and other debris. In this cab, we have stored 30-minute flares, the familiar "hard hats" and first-aid equipment. The cab is warmed by a hot-water heater.

We have mounted in the operator's cab a small amplifier and speaker connected to telephone jacks mounted in the left rear equipment compartment. A cable reel holding 100 feet of cable and a microphone is also mounted in this compartment. Through use of this system it is possible to efficiently direct the operation of the winch from varying distances away from the truck. The safety advantages of the system far outweigh the $100 additional cost.

The body of the truck is accessible from the rear, and it is large and convenient enough to house stretchers, blankets and other emergency equipment. The largest unit in it is the 15-ton Braden winch with power controls in the driver's cab. We have the familiar all-way sheave at the rear so that the winch can pull the cable in any direction. The body has a sliding roof, thus allowing us greater freedom when we mount the boom on the rear. Mounted inside on the walls are snatch blocks, shovels, rakes. We also keep a Blackhawk 10-20 ton rescue jack with its many attachments making it able to pry up concrete, force apart crushed portions of automobiles, or pull together if necessary. We also can use it each day for lifting tree trunks, and other heavy work. We have special receiving compartments for pole saws, pole pruners.

A great deal of thought and study has gone into modifying the truck body to meet our needs. And we were fortunate in having the body manufacturer in our city, easily available for consultation. But I would conservatively estimate that because of the convenience that this truck has provided our efficiency has risen by 30%.

Tree Men No Longer Stumped

The stump cutter at work on a stump like the 9 x 12-foot one at the right which took four men four days to remove manually.

EVER since man started cutting down trees he has been faced with the problem of getting rid of the stumps. This year the Vermeer Mfg. Co. of Pella, Iowa, has produced a Pow-R-Stump Cutter which, in my estimation, is the solution to the problem of getting rid of the unwanted part of the tree that has for years given tree men headaches. This new machine is fast, simple, safe, and not costly.

By HARRY E. TURNER
Secretary-Forester
Shade Tree Commission
East Orange, N. J.

Fast, Safe and Rugged

Fast, because it can remove unsightly stumps located in places where blasting, bulldozers or other heavy equipment cannot be used. It can straddle a 6-foot stump and cut it 10 inches below the ground surface in a matter of a few minutes.

It is safe because heavy mesh shields are placed between the operator and the cutting rotor for safety and do not obstruct his vision. Canvas shields are dropped at each side of the unit to prevent the chips from scattering over a large area. These protective measures give the operator full control as well as maximum safety.

Rugged construction keeps the cost of operation low. It has 24 cutters, 12 on each side of the 28-inch heavy steel wheel. These blades are held in place by lugs and can be replaced in a few minutes. Power is supplied by a Wisconsin 36-hp engine complete with starter.

Last year the East Orange Shade Tree Commission spent over $1,500 to replace sidewalk and driveways that had been damaged during stump removal. I feel this machine would pay for itself in two years in this one item alone.

A Problem No Longer

With the rapid increase of Dutch elm disease spreading throughout the country, many large, ancient landmark elms will have to be cut down and carted away. Thanks to the now indispensable Pow-R-Stump Cutter, getting rid of unsightly stumps is no longer a problem.

Manhattan, Kans., Improves

Although plant extensions are not due for completion until the summer of 1958, some units are already in use.

REPEATED demands for 5.0 mgd and more of water from a 4.5 mgd rated facility brought about Manhattan's present water improvement program. City officials called in the firm of Black & Veatch, Consulting Engineers of Kansas City, Mo., to make a comprehensive survey and recommend corrective action. Recommendations consisted of four basic steps:

1. Expand the existing 4.5 mgd treatment plant to 7.5 mgd.
2. Replace the existing high service pumps with new units having a firm capacity of 8.5 mgd (capacity with largest unit out of service).
3. Drill a new well and lay a new 18-inch main from the wells to the treatment plant.
4. Establish a high level water system to properly serve higher elevations.

Voters Support

The project as outlined had the support of local citizens, for in August 1955, they voted in favor of issuing revenue bonds totaling $1,300,000 to pay for the needed improvements. These bonds will be paid off in 25 years with no increase in water rates.

The first contract, awarded in December 1955, went to the Chicago Bridge & Iron Company for construction of a 500,000 gallon elevated steel tank. Walters Construction Company of Manhattan constructed the supporting foundation and installed the connecting piping. The structure measures 97½ feet from the ground to the tank bottom. It rests on piers that have been carried some 15 feet to bed rock.

About the same time Walters Construction Company also started laying the 18-inch well collecting line and about 3 miles of distribution main. The latter consisted of a 16-inch line from the treatment plant to Kansas State College, where a 10-inch line was stubbed out for the

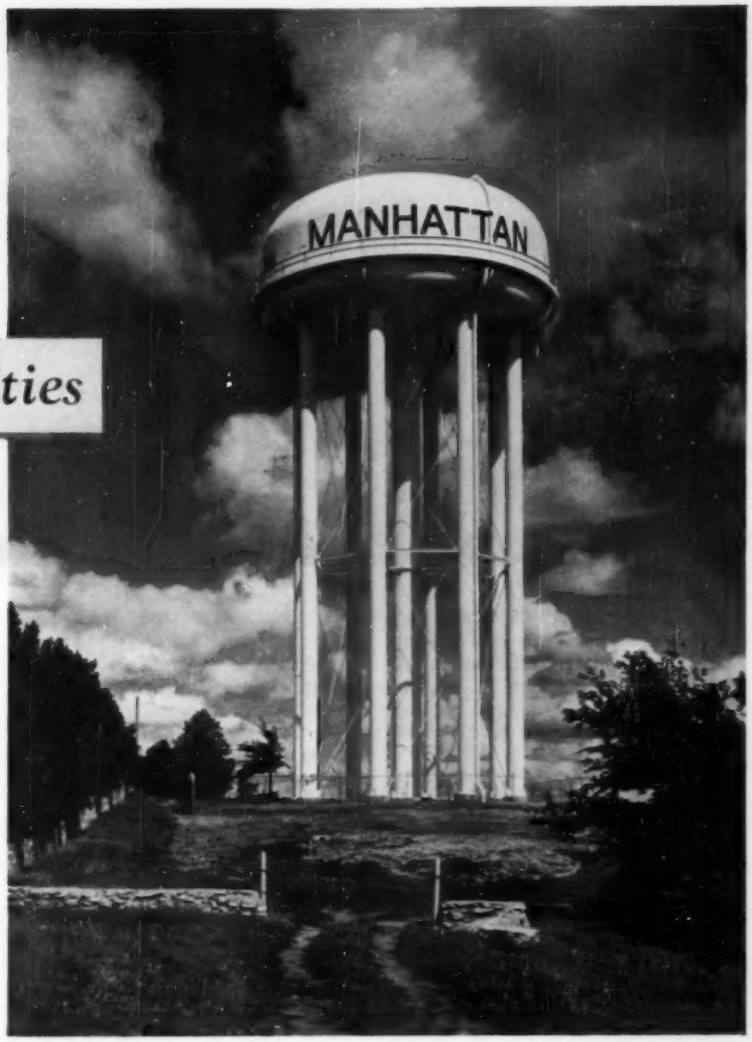
The new high service pumping station contains five pumps. They have a total capacity of 8,050 gallons per minute.

Electric motors drive four of the high service pumps. The fifth serves as standby in case of electric power outage.

By R. E. BOONE
Resident Engineer
Black & Veatch
Consulting Engineers
Kansas City, Mo.

Its Water Facilities

Expansion program designed to needs of estimated 1970 population of 30,000 persons



Construction of this elevated tank made up the first contract in the water program.

college hookup and a 12-inch line extended to the new tank. These mains were connected to the existing system at one point on the low level system and at two points on the newly established high level system.

Booster Station

A third contract, awarded to Hunter and Lundberg of Manhattan, called for construction of a booster station on the 12-inch line about 2 miles from the plant. This station contains two 700-gpm DeLaval pumps; there is provision for a third unit. Piping arrangements permit bypassing of the pumps and also allow for the backflow of water from the elevated tank to the low level system if necessary.

Operators at the treatment plant control booster station operations and water elevation in the elevated tank by means of Builders-Providence (division of B-I-F Industries) supervisory control and telemetering equipment.

For years, the City of Manhattan discharged lime sludge from the softening process into the Kansas River. However, orders from the State Board of Health to stop this procedure made it necessary to find another means of disposal. This was done by constructing a lagoon with a capacity of about 80,000 cubic yards. This lagoon, located about ¼-mile from the plant, should take care of sludge disposal for about 10 years.

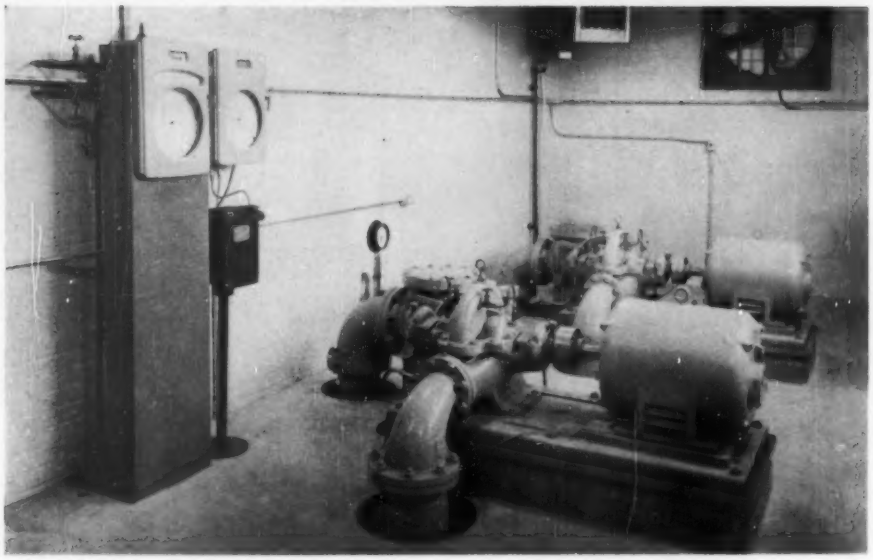
Pumps

Two Fairbanks-Morse centrifugal pumps and three Marlow diaphragm pumps transfer the lime sludge from the plant to the lagoon through a 6-inch pipeline.

Carrothers Construction Company of Paola, Kans., contractors on the lagoon, also constructed the new 1,000,000 gallon underground storage reservoir and high service pump house. This reservoir, plus the new elevated tank, increases finished water storage to over 4,000,000 gallons.

The new high service pump house, constructed over one corner of the new underground storage reservoir, houses five Layne vertical turbine pumps supplied by Layne-Western Company of Wichita. Two are rated at 2,100 gpm, two at 1,400 gpm, and one at 1,050 gpm—all against a head of 250 feet. Allis Chalmers electric motors drive four of the pumps and a Waukesha gasoline engine is connected to the fifth, one of the largest units, through an Amarillo right angle gear drive. Two wet wells, one serving two pumps and the other three, permit pump servicing without decreasing plant capacity to any great extent.

Hunter and Lundberg are also constructing the filter plant additions,



Operators at the treatment plant control these booster pumps located about two miles from the plant through a supervisory control system.

with E. W. Bacharach of Kansas City doing the filter work and piping. Additions include construction of four rapid sand filters with Leopold bottoms, a new aerator unit, another slow mix basin, and a primary settling basin.

Filter Plant Renovation

Renovation consists of new bottoms and filter media on the four oldest filters; new sand for the two filters built in 1950; expanding the two existing aerator units and replacing the disintegrated rock in the splash trays with coke; and enlarging the existing rapid mix basins.

Manhattan, employing the excess lime method to soften water, will use two Walker Process Carball units for recarbonation to produce a stable finished water of good quality.

The larger unit can supply 780 to 3,800 pounds of CO_2 per day for primary recarbonation and the smaller unit has a capacity of 340 to 1,680 pounds per day, to be added to the secondary recarbonation basin.

New dry chemical feeders by Omega Machine Co., division of B-I-F Industries, Inc., one for lime and one for soda ash, provide ample feeder capacity. The water is chlorinated and fluorine added after filtration. Each million gallons of water requires approximately 2,800 pounds of lime and 80 pounds of soda ash for softening and about 8 pounds of alum for coagulation. This reduces the total hardness from about 500 ppm to less than 100 ppm and iron content from 10 ppm to less than 0.1 ppm. The water leaves the plant with about 1.0 ppm of fluorine and approximately 0.3 ppm of chlorine.

The main items for the electrical equipment constituted a separate contract and were purchased from the General Electric Company. This equipment includes a four panel switch gear, four motor starters, a unit substation, and a battery with chargers. The high service pump station is across the street from the treatment plant and office, so remote control devices in the main office control operation of the four pumps. Dorr-Oliver supplied all mechanical equipment for the mixing and settling basins.

New Well

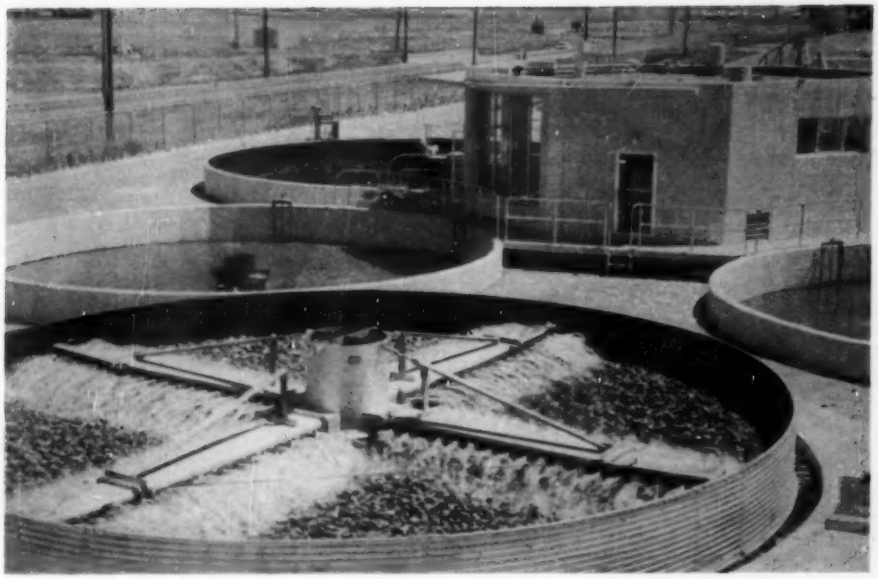
Raw water is plentiful and of good quality, but two of the six existing wells show signs of deterioration. Consequently a contract was awarded to Layne-Western Company for development of a new 1,200 gpm well. Another contract covering well house and piping will also be awarded soon.

The schedule calls for completion of all work by the summer of 1958. All work is being done under the direction of B. H. Van Blarcum, water works superintendent. The writer serves as resident engineer for Black & Veatch.

Total cost of contracts to date, excluding the one covering well house and piping, comes to approximately $1,170,000. This includes $26,900 used in land purchases, but excludes engineering and supervision.

To expedite the work, we divided the project into eight separate contracts. This allowed for the letting of key projects at an early date and eliminated the need to hold up actual construction work until the design of the entire project was complete.

An attractive building houses the two 700-gpm booster pumps and it provides space for another unit. This booster station is located about two miles from the plant.



A view of the plant showing the superate filter (foreground), primary and secondary mixing tanks, final clarifier (background) and the control building.

Two-In-One Plant Meets Rigid Sewerage Requirements

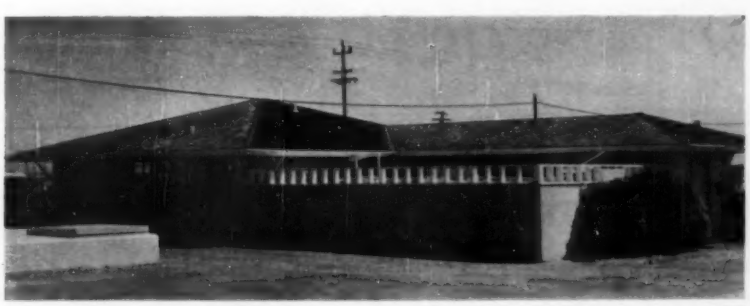
Single-stage biofiltration followed by new activated sludge process produces high degree of treatment

By WILLIAM F. PILLSBURY
Division Engineer, Utilities Div.
Department of Public Works
Sacramento County, Calif.

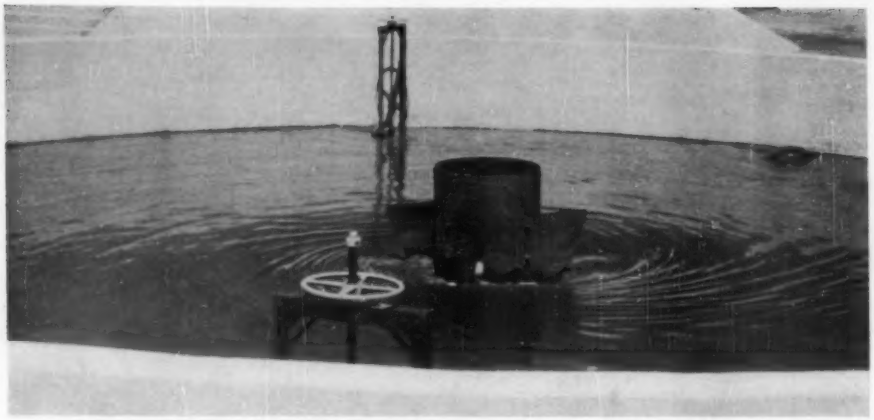
THE Florin Road Sewage Treatment Plant emphasizes the importance of effective sewage treatment in the development of new communities. To demonstrate the possibilities of planned development in the area just south of the City of Sacramento, the Parkway Estates Corporation constructed a subdivision of new houses and related facilities for an initial population of 1,500 persons. Subsurface ground conditions made septic tanks impractical, and distance precluded connections to existing sewerage facilities. To solve the problem, the developer constructed a small biofilter plant.

Looks Like a Residence

This plant was unusual in itself, being contained completely within a space 54 feet square and roofed over with an attractive superstructure. The appearance is so striking that



A roofed-over enclosure, looking like a home, housed the original treatment plant.



The SpiroVortex system provides an extra degree of treatment needed at the Florin Road plant.

one day a passer-by mistook the plant for one of the model homes.

The plant provided a high degree of treatment by means of two-stage biofiltration. Facilities within the four walls included a comminutor chamber, raw sewage pumping plant, two rectangular sedimentation tanks, two biofilters, a square digester, and a chlorine contact chamber. Its total cost, borne by the realtor, came to $70,000.

Sewerage District Formed

The basic development proved so successful that several developers stepped in to construct an over-all planned community of considerable size. This required the construction of a second treatment plant designed for 12,000 persons. Because of the several different real estate interests, financing was handled by setting up a sewer assessment district. Accordingly, the Florin Road Sewer Assessment District was formed under the direction and authority of the Sacramento County Board of Supervisors, with administration and operation under the Utility Division of the Sacramento County Engineers' office.

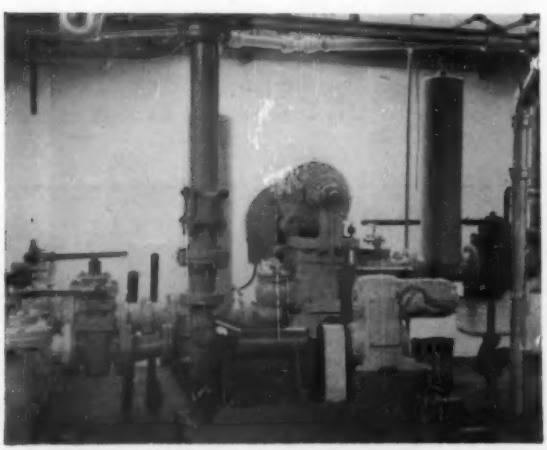
Through special assessment proceedings, the individual developers contributed their pro-rata share based on their respective number of homes.

The new plant has been built adjacent to, and completely dwarfs, the original plant. It actually comprises two integrated plants that may be operated separately or in series. The first portion provides for treatment by single-stage biofiltration; the second by a new embodiment of the activated sludge process known as the SpiroVortex system type of treatment.

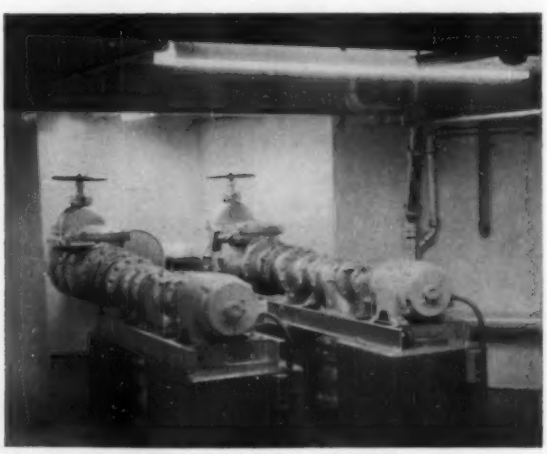
Sewage flows by gravity to the pump station within the plant site where two size 15-M Chicago Pump comminutors cut up the larger particles. Three Fairbanks-Morse sewage pumps, having a total capacity of 3,500 gpm, then lift the sewage to the 50-foot diameter primary clarifiers. The primary clarifier effluent then passes through the 75-foot diameter primary biofilter and on to either the 50-foot diameter secondary clarifier or to the 40-foot diameter primary mixing tank of the SpiroVortex system. Normal operation provides for recirculation between the primary clarifier and biofilter.

New System

The Dorr-Oliver SpiroVortex consists of a primary SpiroVortex tank, a Superate filter, and a secondary SpiroVortex tank. At the Florin



A variable-speed F-M 4-inch bladeless pump returns activated sludge from the final clarifier to the primary mixing tank.



Two horizontal, dry-pit elbow type propeller pumps recirculate sewage between the primary clarifier and the biofilter.

Road plant both primary and secondary mixing tanks are 40 feet in diameter; the Superate biofilter is 35 feet in diameter. The filter contains 1 foot of rock. The sewage flows through the SpiroVortex system and then to the secondary clarifier, with continuous recirculation between the mixing tanks and the filter. Recirculating the mixing tank contents through the filter at a high rate maintains thorough aeration in the system, enabling the activated sludge to be maintained in the two mixing tanks.

Effluent from the secondary clarifier passes over a rectangular weir for measurement and recording by a flow meter manufactured by Builders-Providence, Division of B-I-F Industries, Inc. A variable-speed, Fairbanks-Morse bladeless pump continuously returns the secondary clarifier underflow either to the primary mixing tank or the Superate filter.

Two Wallace & Tiernan Series A-681 chlorinators are available to add chlorine to the plant effluent before it is discharged into nearby Morrison Creek. The effluent itself generally contains less than 10 ppm of both suspended solids and biochemical oxygen demand.

Recirculation pumps for both the biofilter and Superate filter are Fairbanks-Morse dry-pit, elbow-type propeller units. Dorr-Oliver Company supplied all mechanical equipment for the clarifiers and filters.

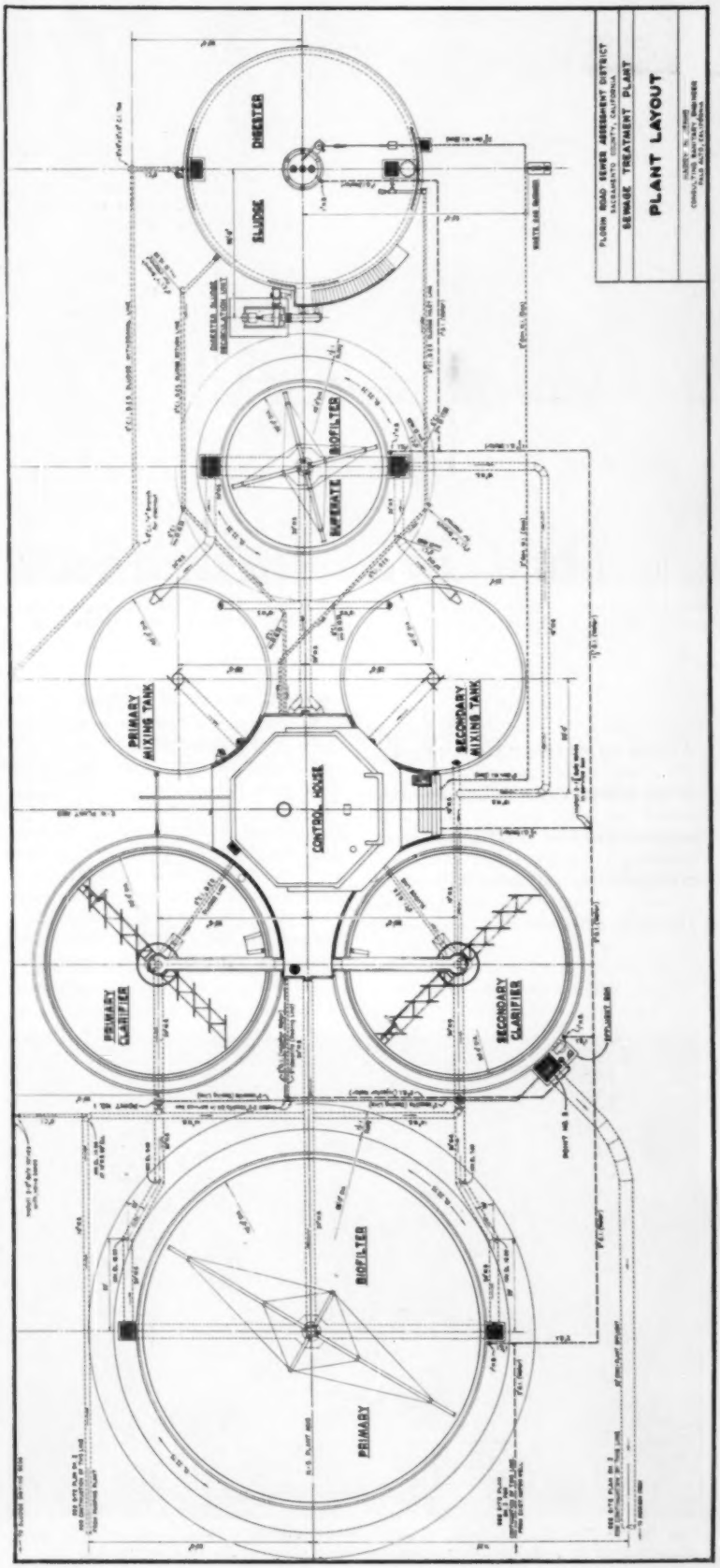
Separate Sludge Digestion

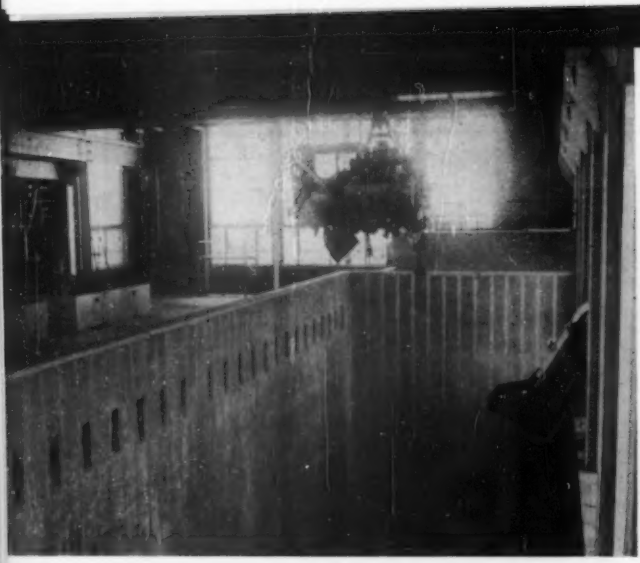
The 50-foot diameter sludge digestion tank is also equipped with a special SpiroVortex mixing system, with mixing accomplished by an external mounted 5,000-gpm Fairbanks-Morse Angle Flow pump. A National Radiator Company hot water boiler and a Dorr-Oliver spiral heat exchanger provide the necessary heat for effective digestion. Open beds provide the necessary sludge drying facilities.

A complete chemical laboratory provides facilities not only for this plant, but for several other plants under county jurisdiction.

Harry N. Jenks and John H. Jenks, Consulting Sanitary Engineers of Palo Alto, Calif., designed the plant with Joseph E. Spink, Sacramento, serving as Engineer of Work. The C. Norman Peterson Co., General Contractors of Berkeley, Calif., held the general contract. Financing of the $425,000 facility was through direct assessments of the several contributing developers.

George E. Toole, Jr., serves as chief operator of the plant.





Left:
Inlet ports in the storage pit wall produce a curtain of air that traps most of the rising dust.

Right:
Steel grating embedded in the floor provides a wear-proof parking spot for the bucket when not in use.

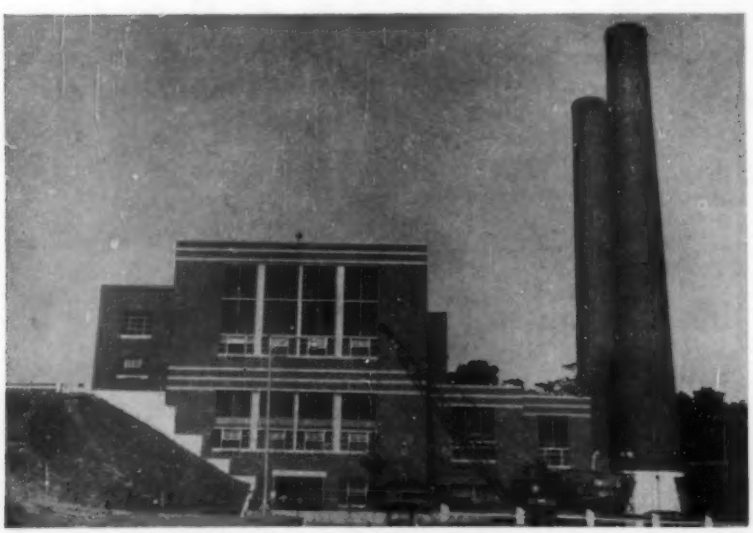
A Dust-Free Incinerator

Town of Oyster Bay, N. Y., tries some new ideas to overcome the traditional complaints of odors, fly ash, and dust

YOU can stand in front of the storage pit in the new Oyster Bay incinerator while trucks are dumping and never get dusty. This puts it in a class by itself. Incinerator men in this country have complained about the dust as long as these plants have operated; designers have wrung their hands, and foreigners looking at our plants have marveled. A booming cloud of dust seemed the trade-mark of incinerator operation. The Oyster Bay plant has none of it. A curtain of air passing over the storage pit traps the dust and draws it off. This is just one of the "gimmicks" that makes this plant worth examining.

Oyster Bay is known nationally as the home of the late President Theodore Roosevelt. When he held office, 20,000 people lived in the town. Today, 265,000 live here and the number is still growing.

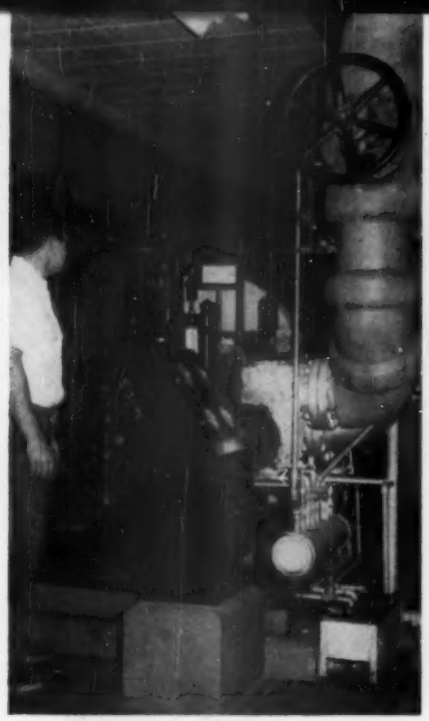
In 1937, the town built a 150-ton incinerator and in 1949 added another 150 tons, but these were soon inadequate. After trying unsuccessfully to cope with the resulting problems by other means, including an investigation of composting, Supervisor Lewis Waters and the Town Board turned the problem over to consulting engineer William Raisch, instructing him to prepare a design for their inspection, large enough to keep step with the population trend, clean enough to guarantee absence of blight to the area, and thrifty enough to be within a reasonable budget.



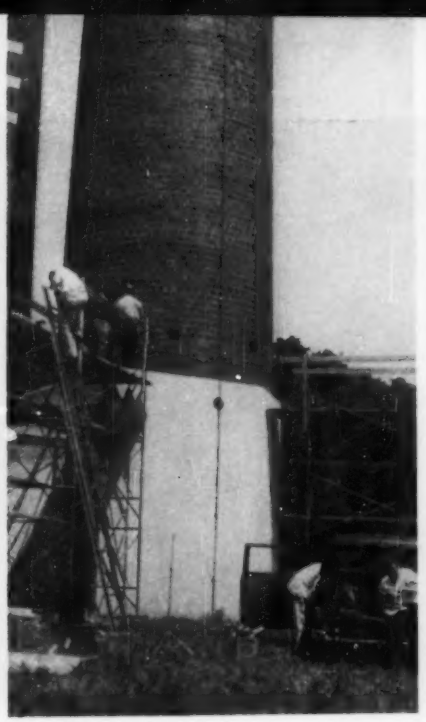
The Oyster Bay plant is built to clean, functional lines. Note the P & H truck crane, which is removing incinerator ash from outside the storage hopper.

Plant Site Selected

With the help of the Town Board, Supervisor Waters picked out a site in a wooded area close to worked-out clay pits. The site is near the center of the area to be served, yet remote enough so that it will not yet create protests from nearby residents. The town confidently expects that the area surrounding the plant will develop into a residential area,



Steam from the incinerator is converted into power by this turbo-generator set.



Meticulous tests of the stack gases showed an unusually low content of fly ash.

An operator slowly works the refuse down the hydraulically operated stoker-grates.

knowing the old municipal axiom that if the plant is there first, the people will build alongside it, but if the people are there first, they will protest the construction of anything from an incinerator to a public library.

The site covers an area of 21 acres, giving ample opportunity to get the trucks off the streets and into the wooded property. Plans include a substantial amount of landscaping to give the site a park-like appearance.

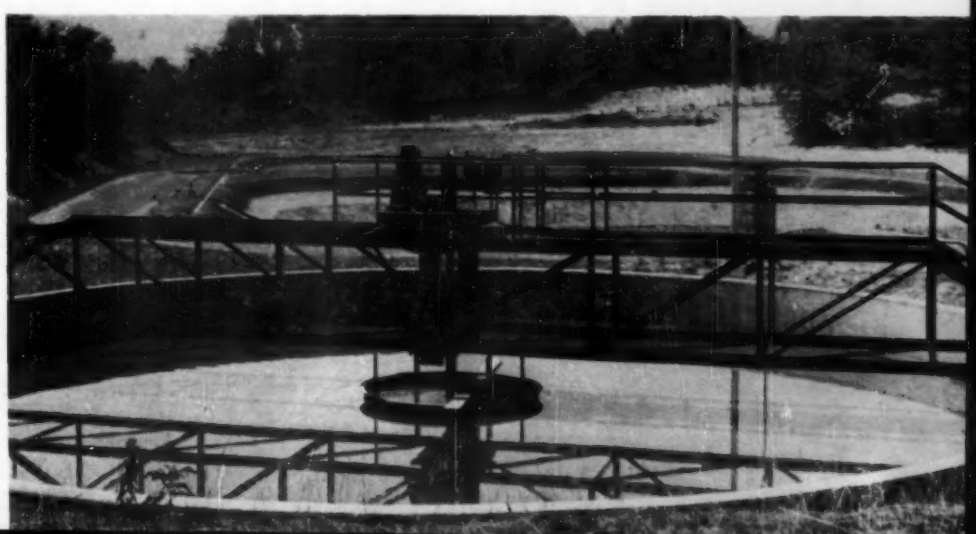
To provide as much flexibility as possible, Engineer Raisch selected the crane-and-bin design with a 24-hour capacity of 500 tons. He realized that the refuse would vary from a dry, easily burned material with no more than 10% moisture, to one wet, soggy, and with 60% moisture. He realized also that the heat value would vary from a low of possibly 2,000 BTU's to a high of as much as 10,000. Nevertheless, he recognized that the plant had to be clean and nuisance-free.

Air Curtain Traps Dust

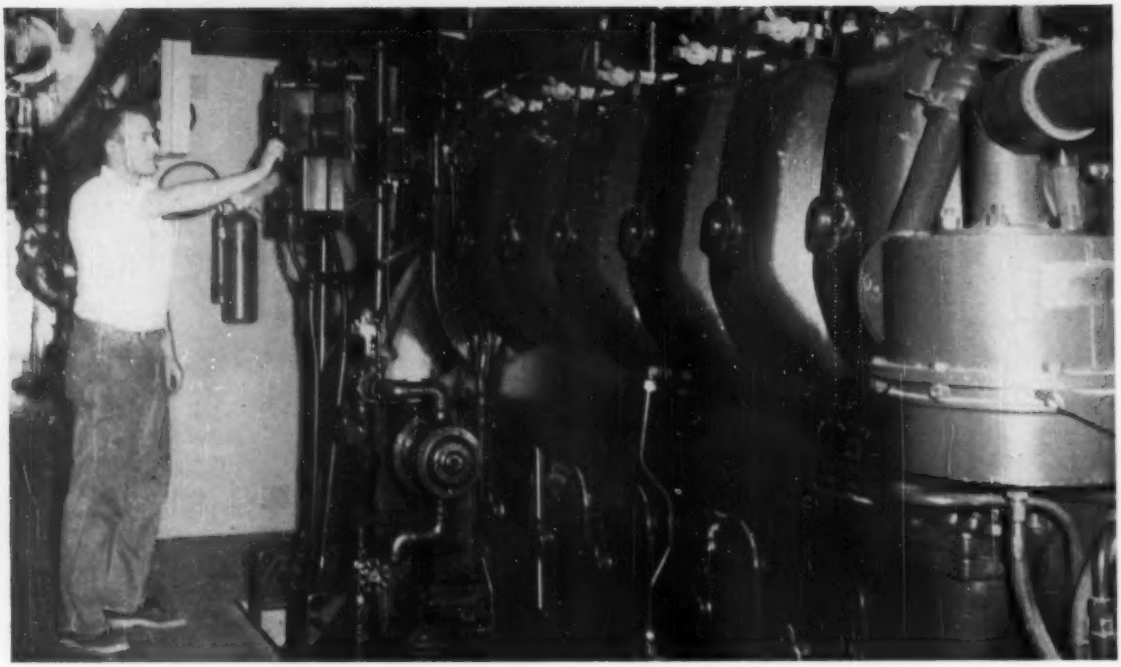
The storage pit was the first place where he put this principle to practice. The pit measures 90 feet in length, 20 feet in width, and 27 feet in depth to provide a capacity of 97 cubic feet per ton of rated capacity. A truck discharging its contents may drop the refuse as much as 27 feet, without dispersing dust throughout the plant.

To intercept this rising dust, Mr. Raisch provided inlet ports along the top of the pit that draw air across the top which carries away much of the dust. Two 9,600-cfm Sturtevant fans provide the needed draft, discharging the dust-laden air through a filter to the atmosphere.

The bottom of these pits can become dangerous death traps by accumulating dangerous gases. So, Mr. Raisch eliminated this danger by supplying two additional 3,800-cfm fans that constantly withdraw air along the base of the pit. In addition, he has supplied 43 other fans throughout the building to insure a suffi-



Water that ejects the ash from the furnaces is clarified in this settling basin and reused.



ciency of fresh air, heat, and ventilation.

To transfer the refuse to the furnaces, Mr. Raisch supplied two P & H bridge cranes, thus making sure that the plant would not be put out of commission by crane difficulties.

To prevent the clamshell buckets from damaging the floor when not in use, Mr. Raisch provided two armored floor "parking spots." To make the charging floor comfortable for the operators during cold, wet winter days, he embedded hot water pipes in the area where they normally stand to keep the floor warm.

Furnaces

The plant has four furnaces, each of rectangular design, and with a grate area anticipating a burning rate of 60 pounds per square foot per hour. Each furnace has a pair of charging gates 4 feet 6 inches x 4 feet 6 inches, giving some flexibility to the placing of refuse in the furnace. Each also has a pair of Flynn & Emrich hydraulically operated inclined stoker-grates. This allows the operator to work the refuse down the inclined grate area slowly enough to insure thorough burning and discharge continuously the burned residue. Each of the four furnaces has an internal volume of 1,825 cubic feet.

The gases leave the furnaces at temperatures ranging from 1,400°F. to 2,000°F., thus insuring the destruction of odor-forming particles. However, this heat represents potential power, some of which Mr. Raisch decided to use. (Theoretically, each pound of refuse should be able to generate 2½ pounds of steam.) He could not find a way to utilize all of this steam, but did develop ways to use some of it economically.

Consequently two Stirling, H-type boilers went into the plant, each capable of producing 13,000 pounds of 250-psi steam per hour. These power a DeLaval steam turbine electric generator rated at 400 kw, or more than ample to meet all the power requirements of the plant and other town buildings to be located here. The turbine operates at a 5 psi back pressure, thus allowing the use of the exhaust steam to heat the building and help remove the fly ash. An Alco diesel engine electric generating set rated 400 kw provides power when the furnaces are not operating and is available for standby service.

The incinerator heat, incidentally, furnishes the power to operate a 60-hp Deming deep-well pump of 500-gpm capacity, driven by a U. S. Electrical motor with "Duotrol" Control, thus providing water for all plant purposes.

While the waste heat boilers cool the gases and so help remove fly ash, Mr. Raisch did not depend on this alone. The gases pass from the furnaces to expansion chambers in the usual manner. There are two of these, each having an effective capacity of 2,000 cubic feet. Each has a trough-like bottom filled with water. A deflecting damper forces the gases against the water, trapping most of the fly ash. In addition, water spray dampers help to knock down fly ash. Low-pressure steam is also introduced at the head of each chamber. The gases leave the chambers through two chimneys 143 feet high and 8½ feet in diameter. The chimneys are equipped with test ports to determine the amount of fly ash still leaving.

The construction contract required that tests be run of the stack gases to see that not more than 0.85 of a pound of solids be discharged per 1,000 pounds of gases.

This is a common specification, found in many air-pollution abatement codes, but was not required generally by the Town of Oyster Bay.

Test Results

Nevertheless, the tests run by Dr. William T. Ingram, consulting sanitary engineer, showed an average of slightly less than 0.30 of a pound escaping up the stack, or roughly one-third the amount permitted in the specification. The stacks also are equipped with electric eyes that indicate the density of the smoke. This is shown on instruments that

Left:
A diesel engine supplies an alternate source of power.

Right:
The plant has a well-equipped repair shop.

are located in the main control room.

The discharge of the burned residue is still another point that in most incinerators is annoyingly dirty. Mr. Raisch went to great lengths to remove the nuisance.

Hydraulic Ash Removal

Instead of the usual ash hopper discharging its wet and steaming load to a truck, this plant has an enclosed, hydraulic sluiceway. A pair of balanced ash gates serving each furnace drops the ash into the sluiceway where it is quenched immediately and carried by the water to a large ash tank outside the building. Periodically, a crane with a clamshell bucket picks out the residue and loads it into a truck for disposal.

The sluiceway is U-shaped. It is lined with vitrified paving brick but will be further protected with a special coating.

Water flowing constantly through the channel provides the quenching effect. In addition, nozzles discharge water under high pressure to force the residue into the receiving tank. Thus, this system conveys the residue out of the plant without using any moving mechanical parts. Large cans, wire, and other unburnable material cannot cause the system trouble. In all, water flows through the system at 4,200 gpm.

The water, of course, picks up a great deal of fine ash that must be removed. A 50-foot diameter settling tank equipped with an ash water clarifier manufactured by Process Engineers, Inc., of San Mateo, Calif., provides a one-hour settling period. The clarified water then goes to storage reservoirs where it can be reused in the ash-disposal system. The sludge from the clarifier flows to a nearby lagoon.

The plant has a very complete main control board installed adjacent to the office of the chief engineer. Signal lights on the board show which portions of the plant are ready for operation, are in operation, and the condition of their performance. A Beckman pH indicator shows the condition of the ash water. Minneapolis-Honeywell instruments record steam pressure, draft conditions, and temperature. One panel automatically records weather conditions. On this board, also, are the instruments that indicate the smoke density that has been referred to previously.

To record the amount of refuse received at the plant, Mr. Raisch supplied a weigh house and Fairbanks-Morse 40,000-pound Type "S" truck scale. The plant has a large elevator, comfortable locker space and cleanup rooms for the men and a well-equipped machine shop. The schedule of operations is 6 days per week, 24 hours per day. On the staff is a chief engineer, three assistant engineers, a machinist, master mechanic, boiler attendants, engine-room attendants and the usual crane operators, furnace ash and charging floor men.

The total cost of the plant was $1,699,000, plus legal and financing costs, or $3,398 per ton.

Houma, La., Electric Plant Continues to Grow

THREE two-cycle dual fuel engines, each rated at 5,250 hp, will strengthen the Houma, La., municipal electric plant next year. The engines will be identical, and each will have ten cylinders of 21½-inch bore and 31-inch stroke. The first of the three Nordberg units will be delivered in April; all are scheduled for service by December 1958. These engines have an operating speed of 257 rpm and the net rating of each of their attached generators is 3,750 kw.

Since 1949, Houma has installed four other 21½-inch bore, two-cycle engines. Three identical five-cylinder, dual-fuel engines went on the line in March 1949. An eight-cylinder engine was placed in operation in March 1954. A total of 25,350 hp will be operating by December 1958. Mr. R. J. Yakupzack, Houma's superintendent of Light and Power, is supervising the installation.

Dallas Punches Better Vital Statistics

Four Times Faster

The sorter at the left does most of the vital statistics reporting program in the central IBM department, which is supervised by E. Lynn Crossley (above), the city auditor of Dallas, Texas.

VITAL statistics are essential for city planning and public health programs. Their usefulness is measured by the speed and ease with which they can be compiled.

In cities where the government is already using punched-card accounting equipment in other administrative routines, these machines can be a "natural" in accumulating and digesting the area's vital statistics, according to E. Lynn Crossley, city auditor of Dallas, Texas. The machines keep up with running accumulations of vital statistics in about a quarter of the time which it took to compile them manually.

After less than a year, however, it became apparent that the greatest advantages were still to be realized. Cumulative data built up in the punched-card files maintained by the Dallas City Auditor's department made it possible for officials of the Health Department—who, of course, are responsible for creating and interpreting basic vital statistical data —to call for reports on cumulative or average conditions which were virtually unavailable previously.

For example, there are times when Health Department officials would like to have data on things like the average age at death or the percentage of total fatalities caused by a given disease. When the figures were compiled manually, Health Department officials had to think a long time before ordering any special statistical reports. The information they got, in the long run was (1) costly, and (2) subject to unavoidable human inaccuracies.

Makes New Data Available

By contrast, calculations which would represent a full day's time for a clerk can be run through an IBM 604 Calculator in five minutes or less. So, some of the reports which formerly were ordered only periodically are now accumulated on a regular monthly basis. For example, Dallas health officials now have the average age at death for their entire area every month. Prior to the IBM operation, this was a long, tedious job.

As the city administration is set up in Dallas, the Auditor's office operates a central IBM department on a service basis for all sections of the city government. This arrangement makes it possible for the city to absorb odd jobs like vital statistics, which represents only about half of a fulltime job and could not be undertaken by the individual departments.

In the Health Department, under the new plan, the handling of vital statistics data has been reduced to a listing and coding without any compilation. Simplified forms which have been designated as Vital Statistics Code Sheets serve as communication links between the Health Department and the IBM section.

There are separate code sheets for births (including stillbirths) and deaths. Once a day, a clerk in the Health Department copies data pertinent to each birth or death certificate

issued on a corresponding code sheet. For compatibility with the machine's equipment, all entries on these sheets are reduced to numeric codes. Entries cover an extremely full range of information, including a breakdown of up to 1,000 separate possible causes for deaths. In the case of births, Dallas records an occupation code for the father and a complete statistical history of other children born to the same mother. In both cases, code numbers identify the hospitals and type of attendant (M.D., D.O., D.C., midwife, etc.).

These entries are made in the Health Department and verified daily. Then they are sent to the machine department, where they are turned over to an operator who punches a card for each line on the code sheets. These cards are then mechanically verified and stored for month-end vital statistics reports.

One-Unit Job

For all but the most complex of these reports, the full job of data reduction and listing can be handled on a single unit, the IBM 101 Statistical Machine. The 101 couples a high-speed sorter with a listing device which records card counts for the various sorter pockets and posts them to a columnar report. For example, on one report, cards covering all births attended by medical doctors are passed through the sorting portion of the 101. A wiring panel is set up so that the printing portion of the machine records, in separate columns, the number of births to families residing in Dallas, the births to nonresidents who have used Dallas hospitals, the total births for the month, stillbirths and infant deaths, by the same breakdowns.

City Managers Mull Over City-Federal Relations

WHEN the city managers picked Washington, D. C., for their 43rd annual ICMA conference, they also selected the most appropriate subject that the host city could offer—federal-city relations—for their chief topic. And from the temper of the discussions, the city managers did not take too seriously the possibility that the federal government would drop its urban programs, and shunt them to the various states.

Urban renewal was described as a long-term program by Commissioner Richard L. Steiner, of the Federal Urban Renewal Administration. In raising the city's portion of the funds, he pointed out that it can be in cash, donations of land, certain kinds of site work, or public works improvements in, or supporting the area. He directed special attention to the California system of raising the funds by earmarking the added taxes that the renewed area provides.

President-Elect Carlton Sharpe (center), city manager of Hartford, Conn., meets with the executive board of ICMA at the recent Washington, D. C. meeting.

Sewage Treatment

Sewage treatment apparently will get long-term attention and support from the federal government. Gordon E. McCallum, Chief, Water Supply and Pollution Control Program, U. S. Public Health Service, said the pollution problem was such that treatment had to be increased in the future. Carl Shoemaker, consultant of National Wildlife Federation assured the managers that the congressionally-approved program of construction grants would have the continuing support of conservationists. The reclaiming of fresh water from sea water apparently is becoming more of an economic reality. It now can be produced for 60 cents per 1,000 gallons and probably more cheaply in the future.

On the subject of civil defense, Hubert R. Gallagher of FCDA pointed out that cities are doing much more than the states. He recommended the utilization of all governmental resources to meet an emergency, including the development of operational plans and the selection of an alternate location for the city hall in case the normal locations are destroyed, plus a well-ordered method of automatic succession to all important positions in the city.

Self-Assessment

Aside from federal-city relationships, the 561 managers who attended took a close look at themselves. President Samuel E. Vickers, manager of Long Beach, Calif., warned them not to be so busy that they neglected their health. Irving Mcnayr, Columbia, S. C., advised rotating administrative trainees within departments, but warned against making them into "Flying Dutchmen" without any real assignment. Jerome Keithley, Palo Alto, Calif., advised the "brainstorming" technique when real problems need solving, but cautioned against using it too often.

The ticklish problem of how to negotiate with labor unions was discussed by Tacoma's city manager, David Rowlands. Labor, he pointed out, sincerely wants better government. He urged bargaining in good faith, with the business agents submitting their proposals in writing, for distribution to the council and the press. He recommended letting labor settle its own jurisdictional disputes; and pointed out that in general, wage increases are more interesting than fringe benefits.

The Closed Executive Session

Two mayors of city-manager cities appeared on the program to discuss the manager approach from their standpoint. Both expressed general disapproval of the formal closed executive session. However, one said he saw no reason why they couldn't sit down and settle matters "privately over a cup of coffee."

Getting Rid of

Plans for a residential village that turn the disadvantages of an abandoned sand pit to assets were prepared by student architects at Pratt Institute in Brooklyn, N. Y.

Architectural Students Demonstrate Interesting Rehabilitation Ideas

FOR decades the vast beds of glacial sand and gravel that form the rolling north shore hills of New York City's suburban Long Island have been a prime source of building material for construction jobs in the nation's biggest city. Year in and year out residents in the towns and villages that stretch along Long Island Sound have watched helplessly as huge power shovels have chewed into neighboring hills. Even the advent of zoning during the 1920's couldn't do more than stop wholesale expansions of the excavations. And so as the years passed some of the handsomest residential areas in the New York region were blighted with deep raw gashes sliced indiscriminately into the coastal hills. As the pits dwindled in use or were abandoned they continued to act as blights. The only hope of curing the perennial problem was to find a sound way to restore them.

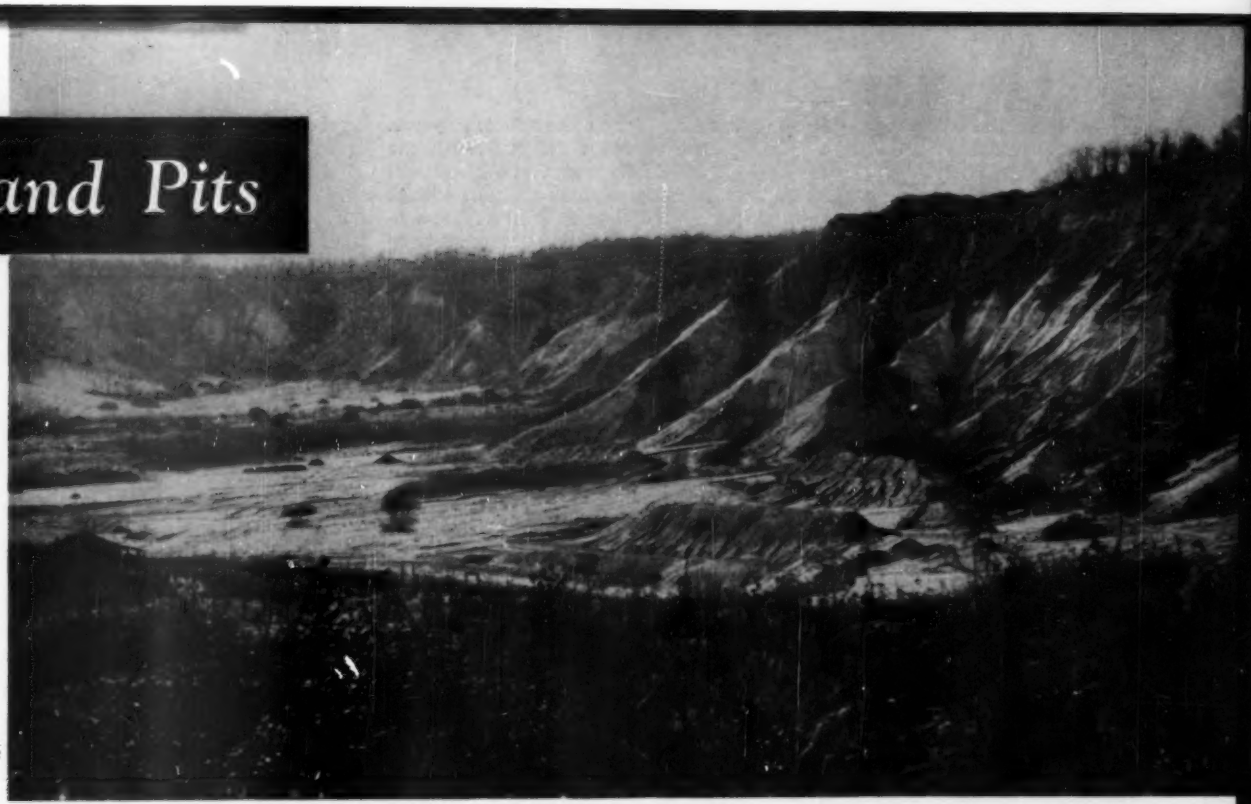
A year ago architectural students from Pratt Institute in Brooklyn, N. Y., traveled out to the north shore village of Port Washington, scouted some mammoth pits, and went back to their classroom drawing boards to see what rehabilitation ideas they could develop. They worked on the problem individually and in teams and after four months came up with a series of solutions that displayed a wide range of imagination plus these noteworthy suggestions:

- **that the big pit sites and the surrounding areas be restored and developed as full-scale residential communities.**
- **that the sharp contours created by the excavations be graded to prevent any further erosion and that they be retained and planted with trees wherever possible and accepted and regarded as distinctive land formations.**
- **that the program of rehabilitation and restoration be carried out over a period of years to make the project financially feasible to the sand excavators.**

In general, the students' solutions showed that interesting designs could be developed by turning some of the outwardly appearing disadvantages of the original sites into real assets. Some students recommended that as the pits continued to be mined, waterfront areas be excavated below water-level to permit the creation of a series of lagoon-oriented properties, all with water frontages. All developed the site into one unified community with a major shopping center and senior and junior high schools grouped together at a central core. All also divided their communities into four or five residential neighborhoods, each served by an elementary school. The waterfront location was exploited in all instances with beaches, yacht clubs and marinas to serve the national trend towards private recreational boating. When completed and published in local and county newspapers the student work attracted wide attention in Long Island villages. It was accepted by local area residents as an evidence of physically what might be done when creative imagination was applied to the problem of sand pits.

Design turns excavation into small boat harbor with recreation center on island.

Sand Pits



The almost insoluble community problem of abandoned sand excavations is getting new attention, and in the case of Northport, N. Y., a successful rehabilitation effort has come to light.

New York Village Shows How to Do It

Northport is succeeding in getting a gravel pit excavator to give up a nonconforming pit and convert it into a handsome residential subdivision

THE Village of Northport, N. Y., is ridding itself of a 34-year-old, 300-acre sand excavation by exchanging something it has and the sand excavators want for something the excavators have and the village wants. The exchange is this: the village is permitting the sand miners to expand their operations temporarily in return for a bonded guarantee to rehabilitate both an original and expanded excavation with a "top drawer" residential subdivision. The alternative of this approach was to clamp down on all expansion, and drive the excavators out of town, leaving the original pit a permanent blight on the handsome north shore Long Island waterfront.

Here is the background of the Northport action. Northport's only gravel and sand excavator, The Steers Company, purchased a 147-acre tract for sand excavating in 1923 before the village had a zoning ordinance. When an ordinance was passed six years later, the gradually expanding sand pit and the surrounding area were placed in a residential district. The excavations were permitted to continue legally as a nonconforming use.

In 1944 through a royalty agreement with adjoining property owners, the Steers Company began to exploit the sand and gravel resources on an adjacent 150-acre parcel. It continued processing operations on its own property.

Tradition Prevails

The incensed residents pleaded with the Village Board to stop the expanding operations. But the Village Board found its hands tied by the traditional theory voiced by zoning theorist Edward M. Bassett that zoning ordinances could not stop a property owner from removing natural resources from a given parcel of land. While a zoning ordinance might prevent the processing of natural resources, it could not stop the removal of them from the property. In the Northport situation, sand was the natural resource under question. Thus blocked, the village fathers put away any thought of legal action, and Steers continued chopping into his neighbor's property.

In the ensuing years, however, Edward M. Bassett's original theory was challenged in the nation's state courts, and an increasing number of decisions in cases dealing with sand and gravel excavations began to swing in favor of outright prevention of natural resources removal. So when the Steers Company planned an even greater expansion of its operations in 1951, the village was prepared to fight.

With the backing provided by the recent decisions, the Northport offi-

cials, under the leadership of Mayor H. F. Richardson, realized that they stood a good chance of preventing any expansions and, in fact, of forcing the Steers Company to ease all excavating beyond its original 147-acre tract. However, the Northporters had no hopes that the courts could stop the operations on the original tract since that was clearly a legal nonconforming use.

It was at this point that a key question emerged: In the long run, what does the village want to accomplish? Does it wish to drive Steers out of town, leaving the abandoned sand pits as a permanent blight on the community? Or, on the other hand does the village want to work out a solution that would change the blighted sand pits into handsome residential areas? The Village Board chose the latter alternative*, even though it meant letting the Steers Company continue its expanded operations for some future years.

Here's how it did it. With the help of Long Island zoning consultant, Robert Richter, the village placed the Steers' original 147-acre tract along with its 150-acre neighbor into a separate zoning area called a "Residence Rehabilitation District." Permitted uses were residences and, under rigidly controlled circumstances, sand and gravel excavation and processing operations. But to conduct these latter activities certain prerequisite conditions had to be met. These included the submission of a plan showing how the area would be restored for residential use once the excavations were completed. The plan had to show the locations of all proposed streets together with widths, grades, surfacing materials, etc., and the ultimate contours and grades of all the proposed residential plots.

Finally, the plan had to be accompanied by a performance bond to cover the cost of completing the project should the excavator default in his obligation to the village. In addition, a schedule had to be submitted showing how the work would be undertaken and completed during a period that could be no longer than 12 years.

After passage of the new ordinance, the Steers Company quickly applied for an excavation permit for it was faced with complying or the alternative of a court case that would effectively shut down its operation. The company armed itself with a plan to rehabilitate both the original 147-acre tract and the adjoining expanded area in accordance with the specifications in the ordinance. The plan was developed by Olmsted Brothers, a landscape architecture and site planning firm that is the successor to Frederick Law Olmsted, famous landscape architect, who planned New York City's Central Park.

The company agreed to start the rehabilitation work on the original excavation and, in accordance with the schedule it submitted, 12½% of the area would be brought to grades in the first year and a half, 25% within three years and 45% within six years. In addition, the company submitted a $500,000 performance bond, the amount of which would decrease as the work proceeded. Finally, the company agreed to relinquish all rights to the nonconforming sand and gravel operation when all work on the plan is completed.

Final agreement between the Village of Northport and the Steers Company was reached in January 1953 and since that time the program has moved forward on schedule.

* Some residents vigorously protested this approach. They suggested that if the Steers Company operation were to be stopped on the property adjacent to their original tract, they could be compelled through litigation to rehabilitate the areas of expanded operation. They further suggested that the village might get a court to impose such harsh conditions as to such rehabilitation that if the village agreed to relax such conditions, it could persuade the company to restore the original tract as well. The Village Board rejected this thought as visionary.

Trends in Controlling Sand Excavations

EACH year more and more cities and towns across the country join the ranks of those that have already adopted methods of regulating or prohibiting quarries or sand and gravel excavations within their borders.

In general, they are taking two paths to accomplish this. Some have adopted special ordinances that do not prohibit excavations but instead control them on a city-wide basis. This is done by establishing a procedure for obtaining permits or licenses to excavate sand or gravel under carefully established conditions. These conditions include physical specifications controlling the excavating methods. These are aimed at preventing dust, noise and other conditions that might create nuisance conditions. Such regulations also specify how the excavated site is to be graded after digging is completed and when the operations are to take place or be finished. In many instances performance bonds are required to cover possible defaults by the excavators. Two early ordinances that included these provisions were passed by the town of Bridgewater, Mass., and the borough of Old Tappan, N. J. Both ordinances were tested in court and upheld by the highest judicial bodies in the states involved.

A recent survey conducted by the University of California's Bureau of Public Administration gave examples of 19 California cities that have adopted such ordinances. These included Beverly Hills, Glendale, Los Angeles, Oakland, Pasadena, San Francisco, San Diego of the larger communities, and Rodondo Beach, Belmont and Fullerton among the smaller communities.

The second general method by which cities and towns regulate the operation of sand and gravel excavations involves zoning. In many instances, local zoning ordinances prohibit quarrying in all but certain districts, and in some of these ordinances the permission to conduct quarrying and gravel excavation activities is granted only by special permission within the districts where this activity is considered a possibility. This type of control through zoning is more restrictive than the city-wide ordinance method. By restricting quarrying to certain specific zones the excavations are relegated to only a very small part of the city. Standards controlling the methods of excavation as well as slopes of the sides of the excavation are often stipulated. Many of them will further require specific plans for the rehabilitation of quarry sites before special permission for the operation can be granted. Performance bonds are also frequently required and time limitations on the operation of quarrying activities are stipulated.

In the University of California Bureau of Public Administration survey, 18 local units of government in California that control excavation through zoning ordinances are cited. These include the City of Anaheim, Los Angeles County, Oakland, Vallejo, Alameda County, Contra Costa County, Fresno County, and Monterey County. The report notes that "generally speaking" both types of ordinances have received the judicial sanction of the appellate courts in the state.

Left:
This pavement striper saves its price sixteeen times a year.

Right:
A Wayne leaf loader mechanizes fall cleanup in Modesto.

Equipment Economies

Modesto, Calif., mechanizes its services and keeps its budget constant despite ballooning costs and increased areas of service

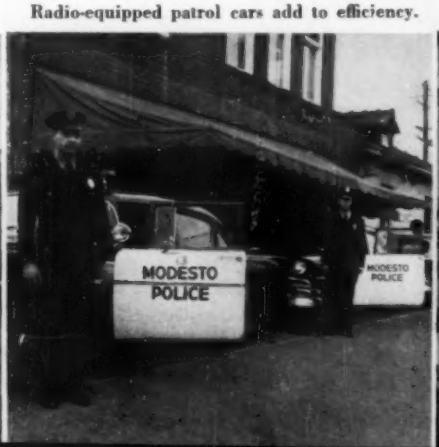
By ROSS MILLER
City Manager
Modesto, Calif.

MODESTO has been fortunate in being able to report to its people that today taxes actually are lower than they were four years ago. In 1953, when assessments and collection of city taxes were transferred to the county, the city tax rate was raised just enough to compensate for the lower county assessments. In 1955, when higher county assessments were ordered, the city tax rate was lowered to offset the change. The State of California order shifted some tax load from utilities to other property, with a resultant increase to some city taxpayers, but without any increase in total property tax revenue to the city. Last year, when county assessments were lowered, the city tax rates were not increased to compensate for the change. Of the total 1956-57 tax dollar collected by the county, Modesto received 22c; the 1956-57 tax dollar collected by the county, schools, and the mosquito abatement district 78c.

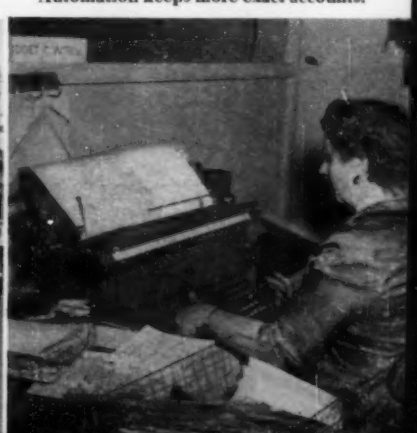
Efficiency within a rigid budget requires trained men and right tools. For example, a one-man operated Wayne 210 leaf loader speeds and expedites the fall leaf cleanup on our streets. A Massey-Harris Work Bull with an augur attachment has cut our tree planting costs in half and raised our work rate 250%. For traffic lines, we use a Mark-a-Line paint striper, raising our work output 300% and saving the cost of the unit 16 times each year. We have stepped up street reconditioning with a Hyster grid roller, transporting it quickly from place to place on a Wright trailer. Motorola radio equipment on police vehicles allows 3-way on-the-job communications. We have mechanized posting, payroll, and claim procedures with Burroughs accounting machines; and cut notetaking at council meetings with a Dictaphone Timemaster recorder.

A Wright trailer aids street equipment.

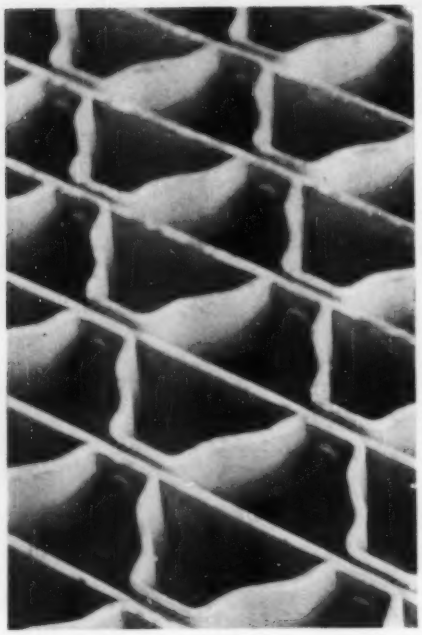
Radio-equipped patrol cars add to efficiency.



Automation keeps more exact accounts.



Many motorists travel almost a mile out of their way to cross the Susquehanna River over this bridge at Sayre, Pa., decked with "CK" grating, rather than use the bridge at Athens, decked with a different type grating.



A close-up of the new design showing the 3/16" elevation difference between the straight bars and the crimped bars.

Modified Design Ends "Weaving"

New grating offers improved riding quality under all types of weather and vehicle conditions

By MARK C. KRAUSE
Consulting Engineer
Williamsport, Pa.

A MODIFICATION of the original riveted-type open-mesh bridge grating eliminates the "weaving" sensation sometimes experienced when crossing bridges with open steel mesh flooring. The new grating, designated as Type V, "CK" decking by the fabricators, Irving Subway Grating Company, Inc., of Long Island City, N. Y., successfully completed three years of field testing in north central Pennsylvania and south central New York.

Increased Traction

Several types of open, steel decking are commonly used on bridges throughout the nation. These may be either welded or riveted. The riveted type comprises straight steel carrying bars and bent or "crimped" bracing bars riveted together. In the original Type V design, the tops of all bars are flush. Indirectly, this causes the weaving sensation, usually resulting from excessive play in worn and loose wheel and steering bearings that produce a slight sidewise shifting of car wheels riding on straight bars in the line of travel. Although some drivers claim a feeling of uneasiness, weaving in itself is not dangerous. The original Type V design has been in use for over 25 years, and is recognized for its safety and other advantages.

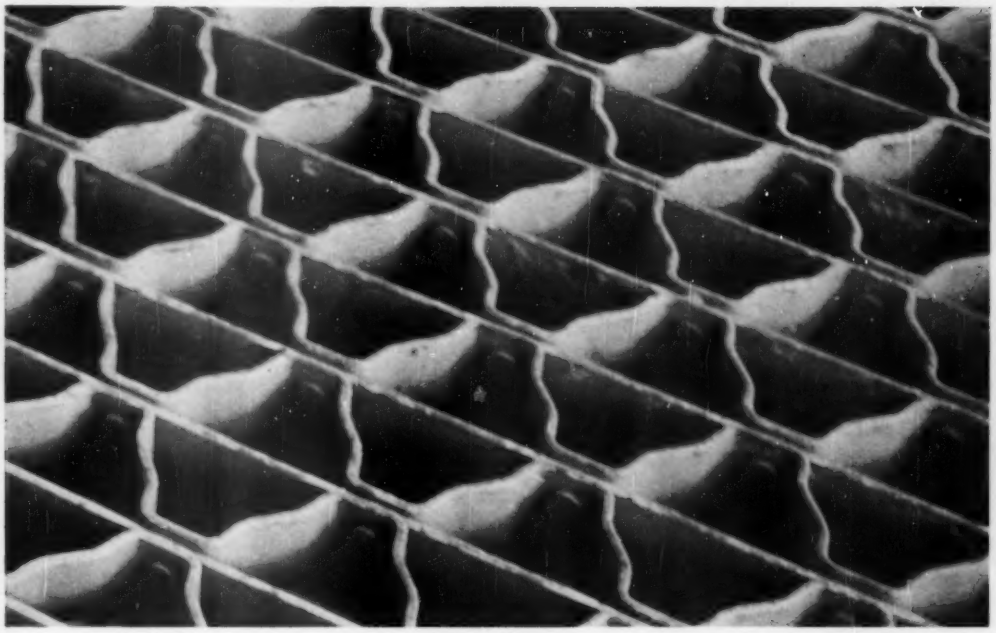
The "CK" modification differs from the original riveted type only in that the crimped bars of the mesh are raised above the top of the straight bars by 3/16-inch. This feature prevents the wheels of vehicles from trying to follow the long, straight bars in the decking. In addition, an enlarged overall surface pattern allows tires to grip deeper into the mesh, giving substantially more traction.

Raising the crimped bars made it necessary to raise the location of rivets attaching them to the straight bars. However, this does not materially effect the bridge flooring strength.

Field Tested

The first installation of Type V, "CK" decking was made experimentally in 1954 on the West Third Street Bridge in Williamsport, Lycoming County, Pa. This bridge contains a two-lane roadway 224 feet long and 24 feet wide.

The newly designed bridge floor improved riding conditions to such



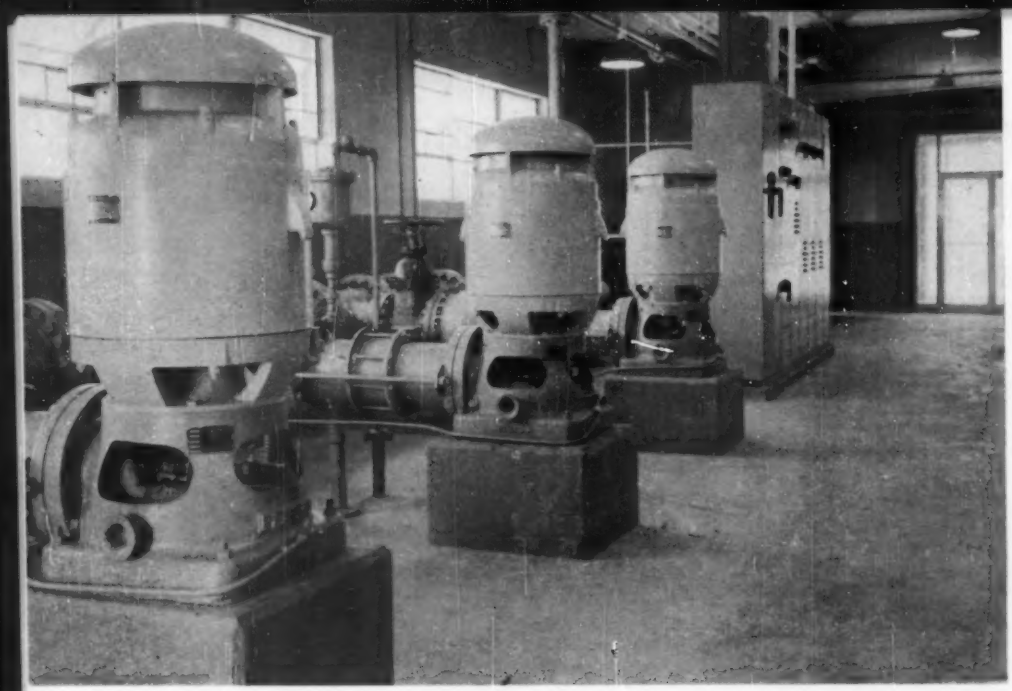
On Open Steel Mesh Bridge Decking

an extent as to receive the acclaim of County Commissioners Clyde Tallman, J. W. Durrwachter and Victor Wise. The commissioners stated that the new type decking definitely eliminates weaving and provides the safest open steel riding surface on any bridge within their jurisdiction. However, Mr. Tallman stressed that the original type riveted decking had a proven safety record and that he had used it for many years on a number of county bridges. One such bridge still has the original flooring placed in 1939.

The experimental installation underwent its first severe test in January 1955, when all the mesh floors on river bridges in that area became coated with ice during a freezing rain storm. During this storm, several police officers riding three-wheel motorcycles noticed the safer riding conditions while crossing the West Third Street Bridge as compared to other open steel-mesh bridges in the area. The difference in performance was so noticeable that Chief of Police John G. Good commented on the fact in a letter to the author.

Reports from other areas also acclaim the improved riding qualities of the new design. John Snedeker of the Bradford County Commission states that much of the traffic formerly crossing the Susquehanna River over a bridge at Athens, floored with a different type of open steel grating, now crosses by way of the bridge at Sayre, recently floored with "CK" decking. Thus, the increased riding quality of the modified grating design is noticeable, encouraging motorists to go out of their way simply to cross a bridge that offers a greater degree of stability.

(Left to right) Ralph E. Davis, Chief Bridge Engineer, Irving Subway Grating Co.; Joseph A. London, Chief Clerk, Lycoming County Commission; and H. E. Colburn, co-designer of "CK" decking, inspect the new type bridge floor on the West Third Street Bridge after three years of service.



Left:
Three 1,050-gpm pumps transfer water from the clearwell to the million gallon reservoir and the Christiansburg elevated tanks.

Right:
Water from the raw water pumps first enters the mixing basins (left) and then passes through the settling basins before going to the filters.

Virginia's First Water Authority

Two cities and a university trade failing wells for an abundant surface supply of water

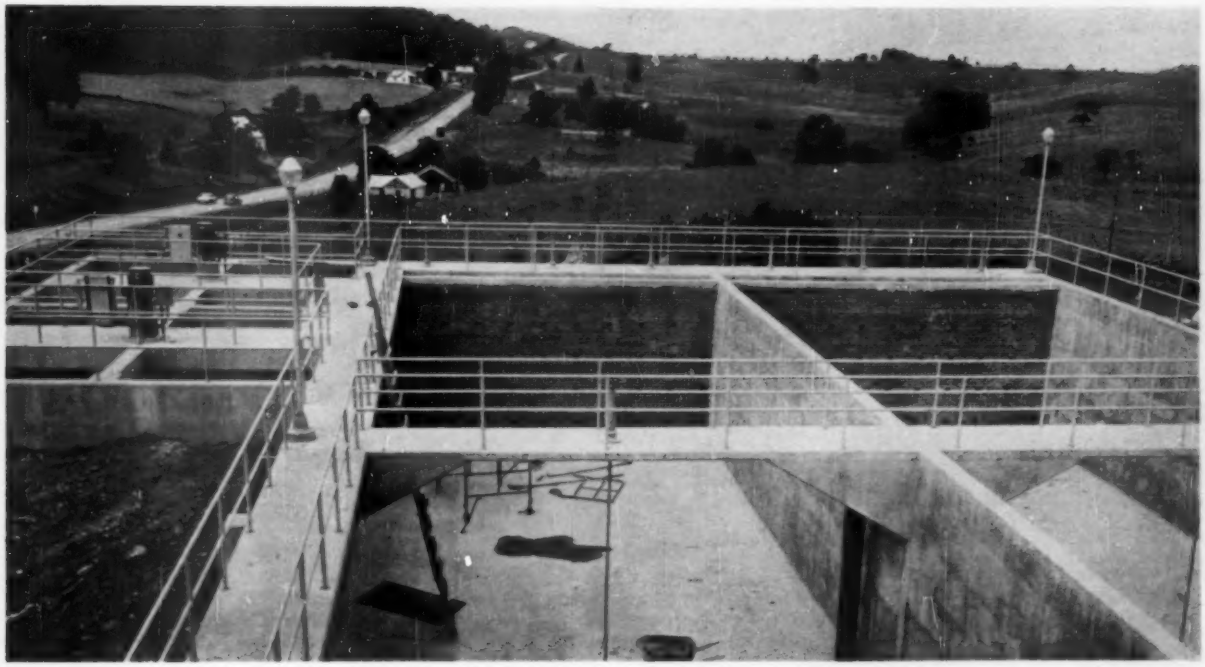
By WILLIAM B. KIRCHMAN
Superintendent
Blacksburg, Christiansburg, V.P.I. Water Authority
Blacksburg, Va.

Present capacity of the treatment plant is 3.0 mgd. Space allows for expansion.

THE Town of Blacksburg and the Virginia Polytechnic Institute had perennial water problems and to begin to alleviate them they formed Virginia's first water authority.

Back in the summer of 1953 the Town of Blacksburg authorized Wiley & Wilson, Consulting Engineers of Lynchburg, Va., to make a study for a future unlimited water supply. Shortly thereafter V.P.I. asked to be included in the investigation and to have the report show the feasibility of a joint project and also separate supplies.

After ruling out several possibilities, encompassing both ground and surface supplies, Wiley & Wilson selected the New River as the best source of supply with an intake located above the Radford Arsenal where Route 114 crosses the river. As soon as the report was released, showing the route of the pipeline to pass within several miles of the Town of Christiansburg, the Christiansburg Council voted unanimously to join the Authority. Thus, Vir-

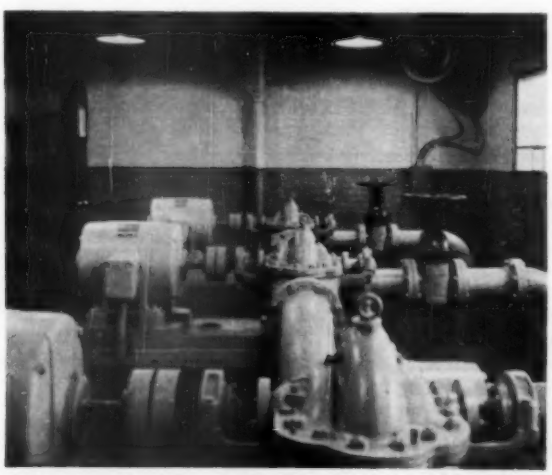


Serves Three Principal Customers

ginia's first Water Authority came into existence on September 15, 1954.

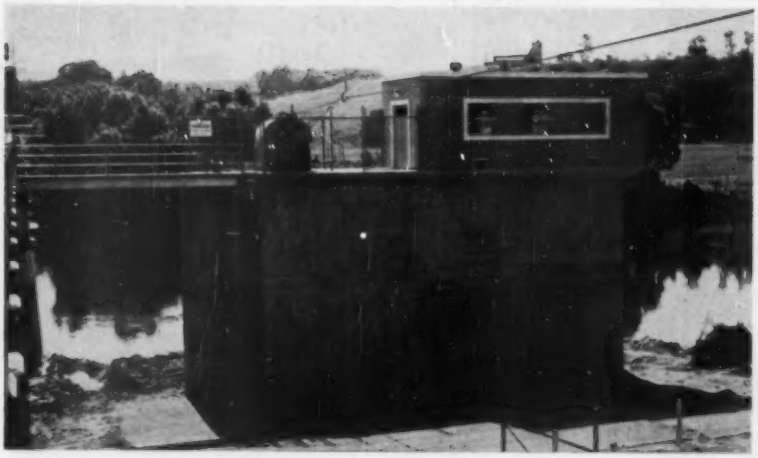
Next came the necessary legal steps and the formation of a fiscal agent comprised of the three firms of Scott, Horner & Co., Strader & Co., and Edward G. Webb Co. Financing provisions consisted of a 40-year, $1,750,000 bond issue. Contracts, awarded in March 1956, went to M. S. Hudgins of Roanoke for the pipelines; J. M. Turner Construction Co. of Roanoke for intake, raw water pump station, filter plant, tank foundation and booster pumping stations; reservoir tank to Pittsburgh-Des Moines Steel Co.; and the mechanical and filter equipment to Roberts Filter Manufacturing Co. located in Darby, Penna.

A 24-inch intake line conducts raw water to the intake structure, where it passes through a Link-Belt traveling screen to the pump intake well. The well contains two 7-foot sand pits, each equipped with 3-inch Shutte-Koerting sand eductors which



These booster pumps—all of the centrifugal type—are on the line between the million-gallon reservoir and the Town of Blacksburg elevated tanks.

A view of the filters and the laboratory. The meter panel which indicates tank elevations and other pertinent data can be seen at the far right.



The New River replaced wells as a water supply to Blacksburg, Christiansburg, and Virginia Polytechnic Institute. Here is a view of the raw water pump station.

use water from the discharge main for cleaning.

Three raw water pumps transfer the water to the filter plant through 10,300 feet of 16-inch cast-iron pipe. All are Peerless vertical turbine units, each rated at 1,100 gpm and driven by 125-hp General Electric motors. They operate against a normal head of 335 feet, and are controlled remotely from the filter plant by means of a Bristol telemetering system using leased telephone wires.

The filter plant occupies a large tract of land about 300 feet above the river. Dry chemicals mixed in solution are added through an 8-inch standpipe connected to the raw water line going to the mixing basin. At present we are using activated alum with lime for coagulation and are prepared for treatment with activated carbon for taste and odor. We also have a fluoride feeder for the adding of sodium silicofluoride, and are equipped for post-treatment of lime and Calgon for corrosion control.

By electrically connecting the chemical feeders to the Sparling raw water meter, the feeders operate only when raw water is passing through the meter.

Two chlorinators provide facilities for pre- and postchlorination. Wallace & Tiernan supplied the chlorinators and also the dry chemical feeders.

Treatment

Chemical mixing takes place in a basin 47 feet x 22 feet x 14 feet which provides a 45-minute detention period at the design capacity of 3.0 mgd. Overall dimensions in the settling basins are 116 feet x 63.9 feet x 14 feet. These provide a detention period of 5 hours and 15 minutes.

We have three filters, each rated at 1.0 mgd, equipped with Wheeler bottoms and Palmer surface wash equipment. The filter effluent flows to the clearwell, which also serves as the high service pump well and wash water pump well.

Plant equipment includes Simplex loss-of-head and rate-of-flow meters, S. Morgan Smith surge relief and butterfly valves, and a Sparling clear water flow meter. The Darling Valve Company furnished all our large hydraulic and gate valves and hydrants.

A single 7,000-gpm, 45-foot head, 100-hp pump supplies wash water to the filters. The filter backwash is discharged to a lagoon located adjacent to the plant.

The plant contains a well-equipped laboratory, ample chemical storage, elevator, and pump room and is so laid out as to permit easy expansion.

Distribution

High service pumping equipment consists of three 1,050 gpm, 360-foot normal head pumps at the filtration plant and three 1,000-gpm, 150-foot normal head booster pumps located between the 1,000,000-gallon reservoir and the Town of Blacksburg. All are Peerless pumps with General Electric motors. The main pumps are vertical turbine units and the boosters are of the centrifugal type. Operation is through a General Electric motor control center.

Finished water flows from the plant to the 1,000,000-gallon steel reservoir through 35,985 feet of 16-inch cast-iron pipe. About 12,250 feet of 12-inch pipe connects the Christiansburg distribution system to the 16-inch line and 16,850 feet of 16-inch pipe carries water from the reservoir to the Blacksburg elevated tanks. About 10,300 feet of 12-inch line running crosstown joins V.P.I. directly with the Blacksburg tanks. The Lynchburg Foundry Co. furnished all cast-iron pipe for the new transmission mains.

The Blacksburg distribution reservoirs are 45 feet higher than the Merrimac (1.0 mg) tank, requiring the booster station to serve the Blacksburg end of the system. However, in case of emergency, water may be delivered by gravity from the Merrimac tank to V.P.I. and lower sections of the city. The Christiansburg tanks can be served by gravity from the large reservoir. The booster pumps are controlled by the water level in the Blacksburg tanks through a Bristol telemetering system. A telemetering system with recording meters located at the filter plant indicates all tank water levels for control purposes.

Operation

We serve the communities and V.P.I. directly, and they in turn distribute the water and handle all incidental matters. Metering for the three customers is done through large Hersey meters. Blacksburg controls all water customers, except for V.P.I., from the intersection of Routes 114 and U. S. 460 into the town, and Christiansburg controls all other customers along the supply mains.

Blacksburg at present has about 1,600 metered customers and Christiansburg about 1,250. The college enrollment is now about 4,500, giving us a total of about 16,000 persons served. There is very little industry served in the area.

Mutual agreement contracts set the sale of all water by the Authority at 30 cents per thousand gallons until the bonds are retired. We anticipate their retirement in advance of the established 40 years.

The Authority

The Authority consists of five members. Present members are: R. F. Plank (Blacksburg), chairman; J. P. Jones (V.P.I.), vice chairman; E. B. Norris (V.P.I.); John C. Martin (Blacksburg), treasurer; E. D. Pierce (Christiansburg), secretary. The author joined the Authority as resident inspector, coming from the Williamson, W. Va., water department, and was later given the position of superintendent of the Blacksburg & Christiansburg, V.P.I. water system.

The big tractor carefully levels the refuse and compacts it to a dense mass. The same tractor (right) loads the trucks with cover material that is used to complete the sanitary landfill.

It Made a Big Difference

Mitchell, S. D., wipes out flies, smoke and offensive odors with one of the Midwest's most carefully operated sanitary fills

THE Chamber of Commerce, in Mitchell, S. D., is gradually becoming accustomed to it. For although the Chamber's publicity releases do not often extol the city's well-operated sanitary fill, those who know good municipal government when they see it like to pay the fill a visit.

Mitchell has about 35 acres of submarginal land outside the city that gradually are developing and growing into what will ultimately be a taxpaying municipal asset. This area has enabled the city to snuff out the fires in a cancerous old open dump crawling with rats and swarming with flies. The people in the area have noted the improvement. The fill is operated under the supervision of H. C. Pengra, Sanitarian.

To operate the fill, the city uses an Allis-Chalmers HD-11G tractor shovel. This unit levels and compacts the refuse, and then covers it with earth. The entire 35-acre area has been covered with refuse in one lift. Today, the tractor is placing a second layer of refuse. To do this, the city must truck in cover material, thus giving the tractor the added duty of loading the trucks. The layers currently have raised the level of the land 35 feet.

No Complaints

Mitchell now has a housing development built within two and a half blocks of the landfill proper. Residents have not complained of odors, rats, etc., for almost two years.

In summer, the city operates on an area-fill basis with a layer of garbage compacted to about 2 feet in depth and a layer of dirt compacted to about 1 foot in depth. This is then covered in the fall with another 1 foot of earth. We now have five layers of garbage in this so-called "summer fill."

In winter, the operators dig a large ditch about 50 feet wide, 6 feet deep, and 300 feet long. Trucks back into it, packing the refuse against the end of the ditch. Refuse is covered with earth until freeze up, then it is compacted and covered with snow. The heat from the garbage melts the snow, and as it cools ice is formed. This is then covered with earth in the spring after thawing and recompacted at that time.

This fill has produced no problem with settling. The ditches dug for winter use are in a part of the 35-acre plot which was the open dump years ago. This has given at least an additional two years of use of this land that we would not have had if Mitchell had continued the old operation.

A County-Wide Approach to the Sewage Problem

Rockland County, N. Y., plans remedial action in advance of critical conditions to promote orderly development

By CHARLES T. WALSH, *Partner*
Bowe, Albertson & Associates
Engineers
New York, N. Y.

LOCATION alone virtually guarantees continuous growth in Rockland County, N. Y. It is situated on the west bank of the Hudson River just north of New York City, making it an ideal spot for residential, business and industrial establishments. Adequate water, from both surface and subsurface supplies; good transportation facilities; and plenty of open space add to this growth potential.

47% Served, Only 11% Benefited

The county now comprises five towns and 11 incorporated villages. The total area of the incorporated villages constitutes about 10% of the total county area. Investigations show that although 47% of the present population is served by sewers, only 11% of the land area of the county is benefited. Presently the Villages of Upper Nyack, Haverstraw, West Haverstraw, Nyack, South Nyack, Piermont, and Suffern operate primary treatment plants of various types. The Town of Orangetown contains two sewer districts, one with a primary treatment plant and the other with a plant providing both primary and secondary treatment. The Village of Spring Valley also operates a plant providing complete treatment.

Other plants are operated by the Rockland State Hospital, New York State Rehabilitation Hospital, Orangetown Manufacturing Co., Rockland Light and Power Co., and the United States Gypsum Co.

Joint Action Explored

The 1950 Federal Census lists Rockland County's population at 89,276 persons, of which an estimated 15,300 persons were ascribed to institutions. Future population estimates predict 200,600 persons with a density of 3.4 persons per acre for 1975, and 330,600 persons and a density of 5.65 per acre for the year 2000.

Local governing bodies continuously face the burden of providing new facilities or rehabilitating old installations to ease the growing pains. The County Board of Supervisors, comprised of members representing the various towns, were cognizant of the fact that the sanitary problem extended beyond the boundaries of any particular political subdivision, so moved to initiate remedial action. Consequently, they retained the author's firm to execute studies of the present and future sewerage requirements in Rockland County. This study carefully explored the possibility of joint action and sets forth a definite plan of action.

Long-Range Plan

The topography is such that a unified plant for the entire county is not feasible. From all appearances the Nyack, South Nyack, and Upper Nyack plants can be expanded to meet their respective requirements and at some future date could be combined. With the exception of a portion of Pascack Creek Valley, three plants with a well-designed interceptor system could adequately serve the major portion of the county. The Pascack Creek Valley portion can advantageously connect to the Bergen County Sewer Authority in New Jersey when completed.

Studies show that sewage and wastes from the Orangetown and Clarkstown areas and portions of Ramapo could be conveyed to the Hudson River and treated at a plant located near Piermont. Sewage from Suffern and contiguous areas could be treated by a plant discharging into the Ramapo River and sewage from the northern part of the county could be routed to a plant in West Haverstraw and discharged to the Hudson River. The proposed location of these plants, numbered 1, 2 and 3, respectively, are shown on the accompanying map along with a general routing of the major interceptors.

Estimated 1975 populations in the areas tributary to the plants and number connected are as indicated in the table immediately below:

Plant	Total Population	Connected Population
1	103,000	70,000
2	49,950	25,000
3	30,180	22,500
Total	183,130	117,500

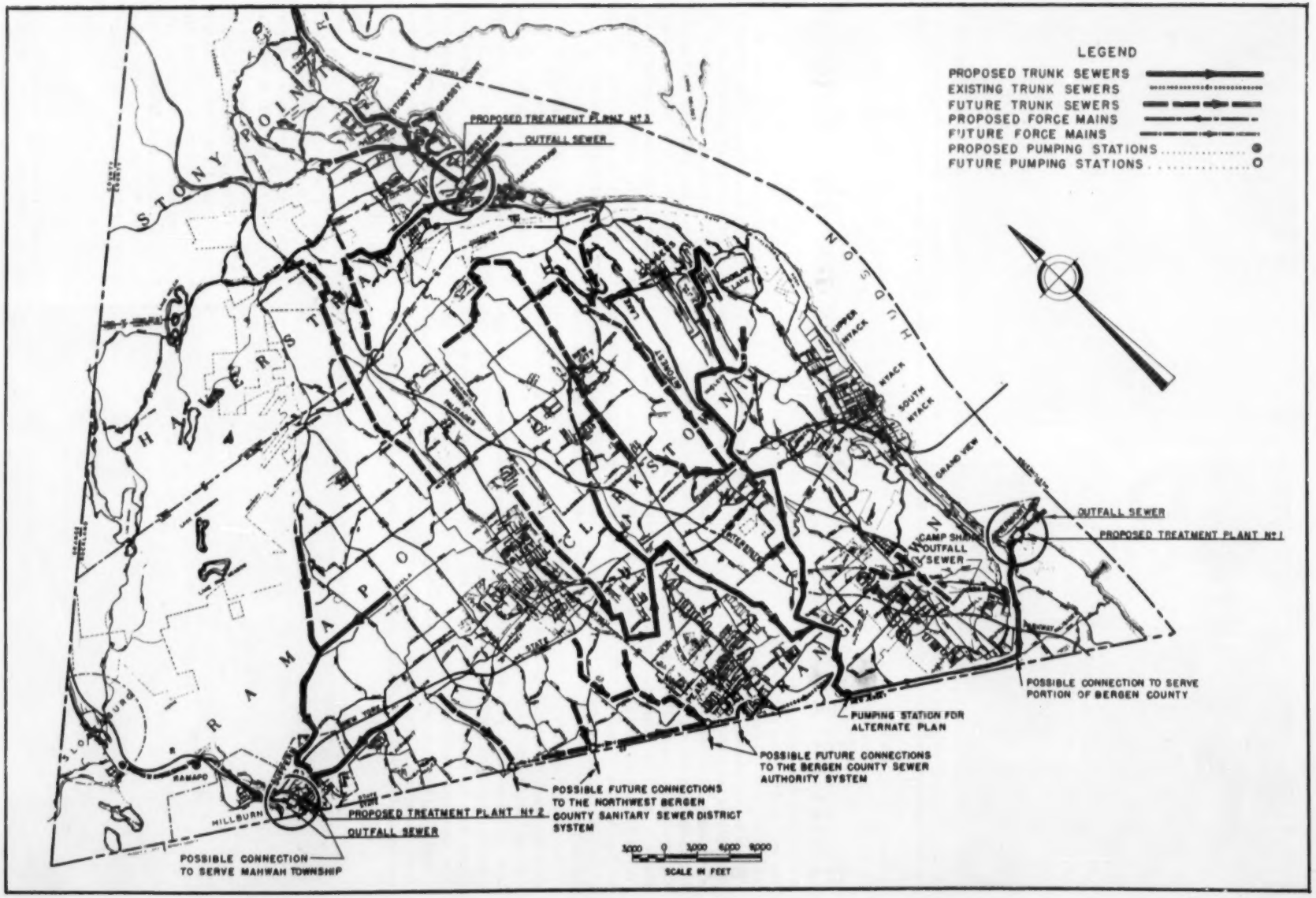
Daily average flow for the plants is estimated at 10, 3.5 and 3.5 mgd, respectively.

Plants 1 and 3, discharging into the large Hudson River, need provide only effective settling, seasonal disinfection and proper dispersal in the river waters. A plant of the activated-sludge type, which provides a high degree of treatment, is recommended for plant No. 2, for this would discharge into the relatively small Ramapo River. Estimated costs for the plants and tributary trunk sewers, exclusive of real estate, are $11,000,000 for No. 1, $2,700,000 for No. 2, and $2,000,000 for No. 3. While the system in general will be of the gravity type, medium-sized pumping stations will be required at New City, Suffern, Sloatsburg, Hilliburn, Haverstraw, Piermont, and Grassy Point.

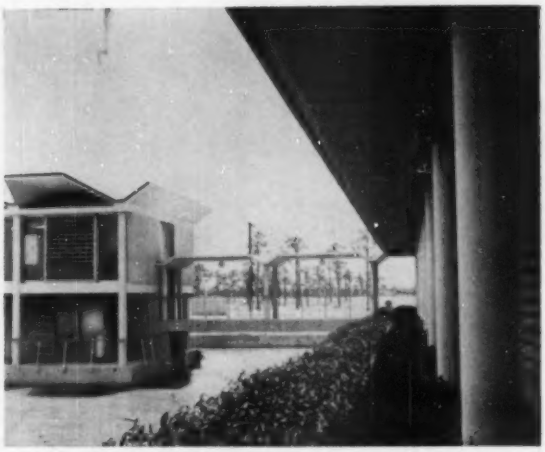
Plan of Development

Because of the size of the project, work must necessarily be executed at times when it can be adequately financed by the county. Abandonment of existing sewage treatment facilities will also be gradual and executed in accordance with a long-range plan. Initially, the county will give priority attention to areas in greatest need of sewer service. To that end the Board of Supervisors recently authorized the preparation of all engineering, legal and financial particulars for the determination and establishment of special districts under the County Sewer District Act, State of New York. This makes it possible to plan remedial action in advance of any critical conditions that might arise.

Upon compliance with the statutory requirements, these districts will be eligible for federal and state aid for the planning and construction of proposed facilities.


LEGEND
PROPOSED TRUNK SEWERS
EXISTING TRUNK SEWERS
FUTURE TRUNK SEWERS
PROPOSED FORCE MAINS
FUTURE FORCE MAINS
PROPOSED PUMPING STATIONS
FUTURE PUMPING STATIONS
PROPOSED TREATMENT PLANT No 3
OUTFALL SEWER
STONY POINT
HAVERSTRAW
RAMAPO
CLARKSTOWN
NORTH
NYACK
SOUTH NYACK
GRAND VIEW
OUTFALL SEWER
PROPOSED TREATMENT PLANT No 1
CAMP SHANKS OUTFALL SEWER
POSSIBLE CONNECTION TO SERVE PORTION OF BERGEN COUNTY
PUMPING STATION FOR ALTERNATE PLAN
POSSIBLE FUTURE CONNECTIONS TO THE BERGEN COUNTY SEWER AUTHORITY SYSTEM
POSSIBLE FUTURE CONNECTIONS TO THE NORTHWEST BERGEN COUNTY SANITARY SEWER DISTRICT SYSTEM
PROPOSED TREATMENT PLANT No 2
OUTFALL SEWER
POSSIBLE CONNECTION TO SERVE MAHWAH TOWNSHIP
HILLBURN
SLOATSBURG
SCALE IN FEET

A unique feature of the construction plans is the roof design of the administration building and the community auditorium.



Architect Rufus Nims designed the structures to catch breezes in the warm Florida climate and to keep sun from pedestrians.

Toward Planned Communities for the Retired

LIFE expectancy in the United States has increased by 20 years since 1900, and the proportion of those 65 years of age and over during these years changed from about 1 in 30 to 1 in 11. Around 14.7 million were in this age group in the United States in 1957. By 1975, the number probably will be 21 million.

The fields of government and business are working toward the goal of making retirement years as favorable as those that preceded them. Standing out among such developments are the federal government's Old Age and Survivors Insurance (OASI) and the private pensions program established for some time among professional, trade, and governmental personnel, among some of the craft unions, and now burgeoning in industry in general.

The Warm-Climate Magnet. The regions of mild climate will attract many reaching retirement. Among such regions, Florida is unique in its relative nearness to population centers of the northeast and north central states, and in the proximity of any point on the peninsula to the waters of the Atlantic Ocean or the Gulf of Mexico.

The Sponsored Retirement Village. As early as 1951, Walter E. Keyes of the Florida State Improvement Commission (now the Development Commission) advocated "the sponsored neighborhood village in Florida" before the Second Gerontological Congress in St. Louis. This proposal was defined in one sentence by William T. Arnett of the University of Florida: "The idea was that a business organization, or agency, a large manufacturing firm, a labor union, or a teachers' association could establish its own community for its own employees or members."

The Salhaven Project

Salhaven, the "Health and Welfare Village" of Upholsters' International Union, is a response to this idea.

The Union learned that convalescent facilities for insured members and dependents were either lacking or unsatisfactory almost everywhere. As a result, the Union's president, Sal B. Hoffman, while attending a gerontological conference at the University of Michigan in 1952, hit upon the idea of a convalescent and retirement center for members covered by the Union's insurance and pension plans and eligible as well for federal old age benefits.

With the cooperation of specialists from at least three universities and numerous agencies of federal and state governments, officials of the Union's Health and Welfare Fund purchased 616 acres 18 miles north of the Palm Beaches on Florida's

Salhaven's community center, combining administration, auditorium and hospital facilities, is oriented around a pool.

east coast, and proceeded to plan a complete small community.

The first phase of construction includes a convalescent center with 32 beds, a village administration building, a score or so of cottages, lodges for single residents, a 500-seat auditorium, a "social center" containing a library and rooms for games and hobbies, and a restaurant and shops. A water system, sewage treatment plant, and fire, police and ambulance services will be made available on the site. The first five years, it is hoped, will see about 240 cottages built along with some dormitories, and the cost for this part of the project is estimated at about $6 million, the whole completely financed by the Fund and administered by a 17-man Board of Managers which includes four employer members.

Planning the Site. Russell VanNest Black, nationally-known city planning consultant, defines the special features incorporated into the plan as follows:

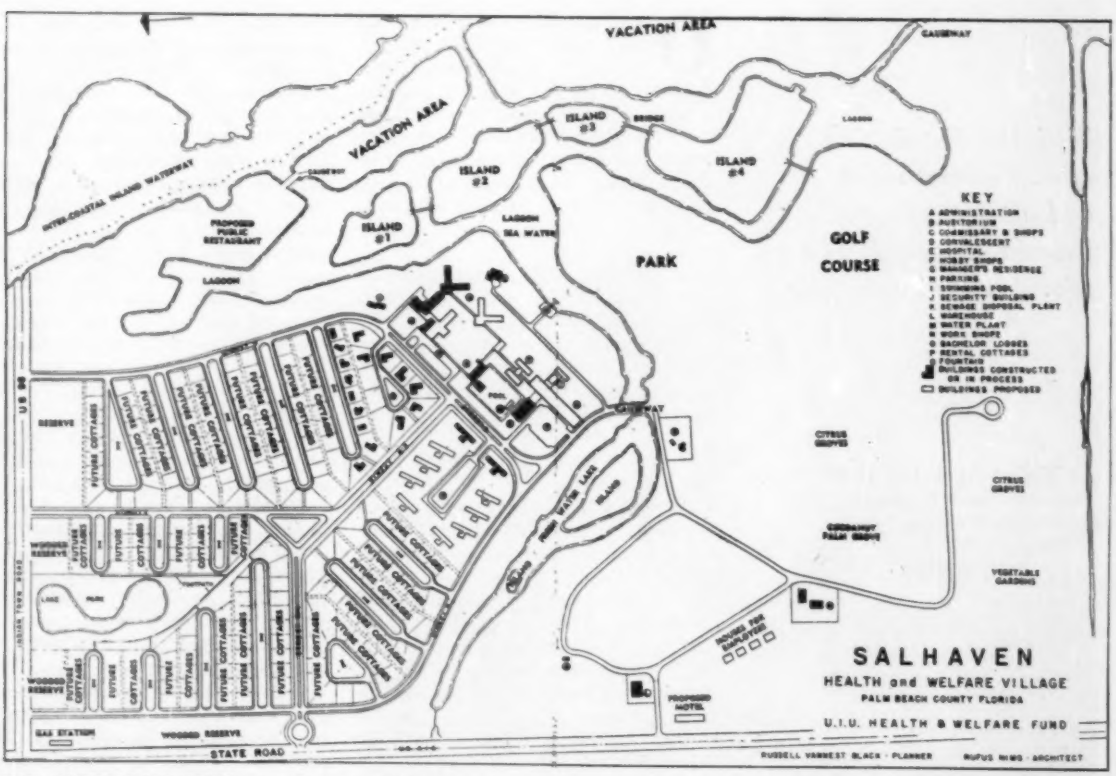
1. Special pedestrian ways arranged with a minimum of street crossings—in effect an internal and separate walk-way system the same as for child safety from traffic.
2. As convenient and direct pedestrian access to centers of community interest as possible.
3. Grouping of cottages on courts, each court with its own communal area for quiet recreation. A part of the court idea is invitation to group sociability.
4. Provision of professional workshops in which those who are interested and able can continue their crafts on part-time.
5. Large enough lots so that each cottager can have his own little garden.
6. Arrangement of residential and communal features with maximum scenic advantage of water areas.

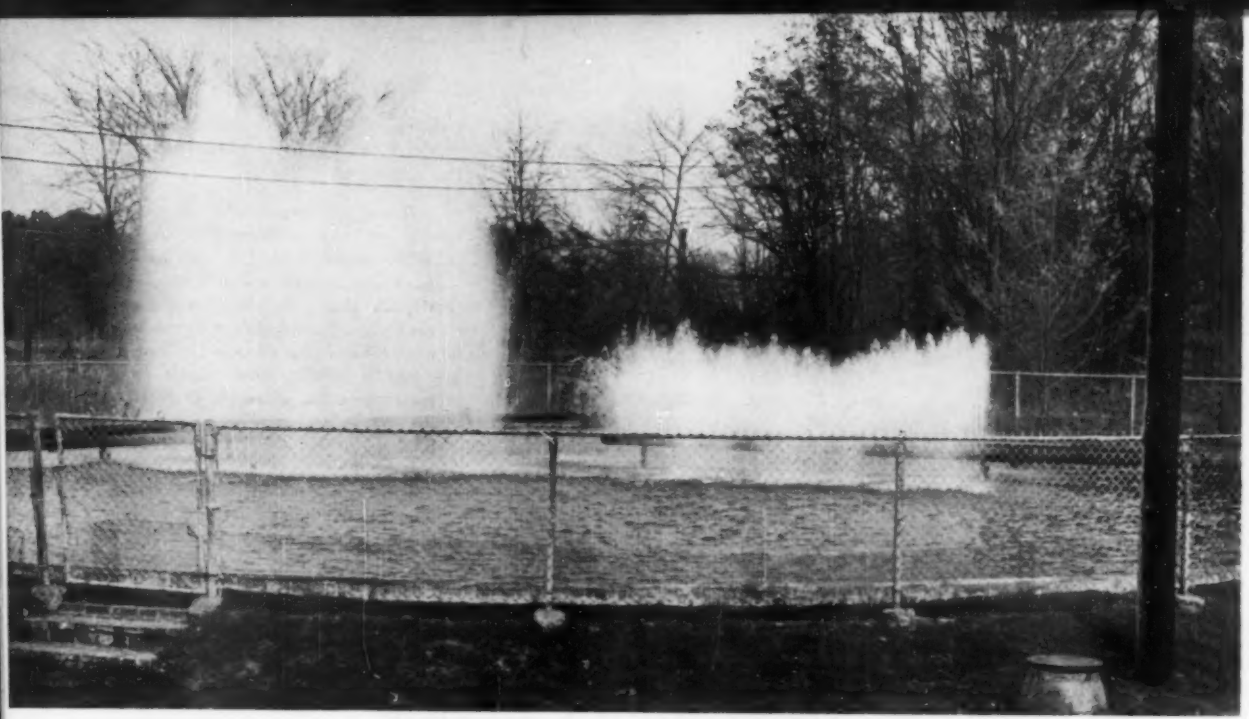
Housing. Housing will be varied. The U-shaped courts will have from 14 to 18 cottages each, and a pool with bath houses is planned for each court. Cottages will have from one to three bedrooms. The lodges for single or widowed persons will have a central lounge and eight one-room units, each with private bath. All housing will be rental, to eliminate the problem of property disposition.

From the beginning, planning for Salhaven has included a "director of medical-social service." The Board of Managers and the planners have sought to arrange community facilities to promote the dual convalescent-retirement program. Both convalescent hospital and social center are located near the waterway not only for scenic value but also to suggest such active use as boating and fishing.

"A good community." The architect, Rufus Nims, summarizes the goals of this planned community for the elderly as follows:

> It was our earnest intent to produce a better community in which elderly people might live. We have been able to find very little to distinguish elderly people from those some years younger except a gradual diminution of physical powers. These things in specific forms require no more than a lack of change in elevation, no projections or protuberances which might do harm, specific safety bars at strategic points, and pilot-lighted equipment, etc. Otherwise what we did for them would have been for any age group. Their houses are intended to exploit the Florida climate—leaving out the heat but otherwise experiencing all the changes in weather and experiencing a close relationship with the out-of-doors. Gregariousness has been encouraged by a central social meeting place. Work has been provided to give stability and importance to the individual. All buildings and all ground areas have been intended to be beautiful in order to give inspiration wherever one looks, but the most important thing is, as I said in the beginning, that all these things harmonize to make a good community in which to live.





The Princeton Water Company's

With the distribution system strengthened and storage capacity boosted, new wells will provide additional water

By WALTER B. JEFFERSON, JR.
Secretary and Treasurer
Princeton Water Company
Princeton, N. J.

OVER the past two and a half years the Princeton Water Company has spent about $500,000 chiefly to reinforce the distribution system and provide additional elevated storage capacity. Now, we are concentrating our efforts toward increasing our supply, and expect to have this second phase of the program completed in a year or so.

We now pump all water from two well fields located about 1½ miles apart along the banks of Stony Brook. Each has its own pump station, the original, or Stony Brook station, and the newer Harrison Street station.

Well Supply

At Stony Brook, six wells pump the water into a 250,000-gallon circular concrete reservoir. The wells range in depth from 300 feet to 500 feet and in diameter from 8 inches to 10 inches. Their yield varies from 150 gpm to 800 gpm. Two of the wells have Worthington Coniflow pumps and four have Peerless Motorbo pumps.

Two DeLaval pumps driven by General Electric motors take suction from the reservoir and pump into the distribution system at rates of 900 gpm and 1400 gpm.

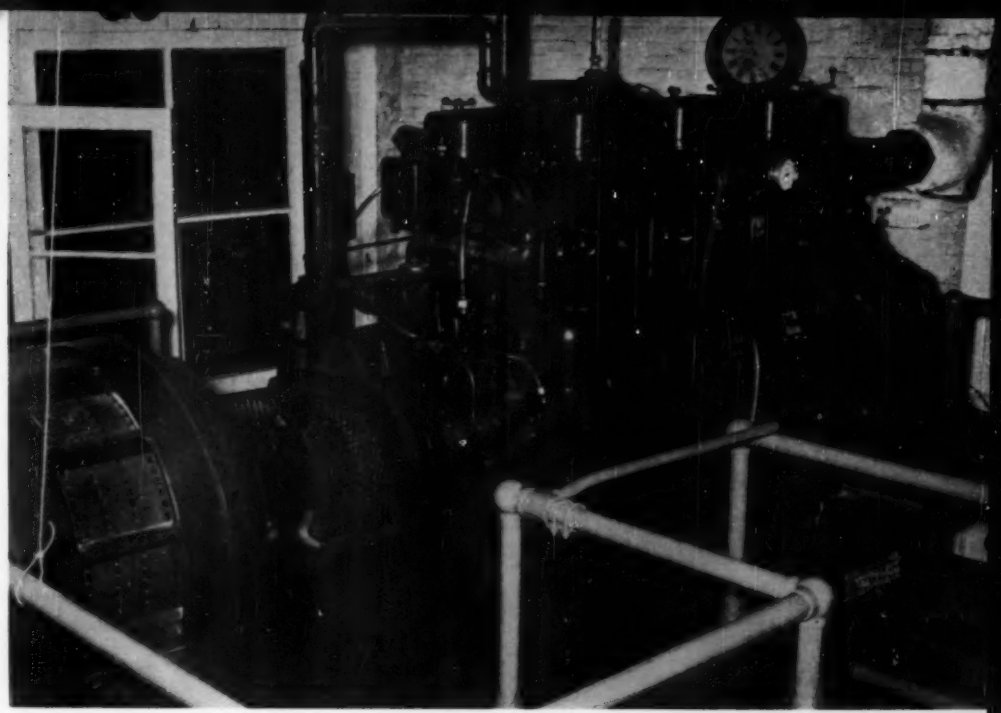
In 1945 the Turbine Equipment and Supply Co. installed a General Electric generator powered by a Buffalo gasoline engine. This unit supplies sufficient current to operate three wells plus the largest high service pump.

Five wells pump into a 950,000-gallon reservoir at the Harrison Street station. The wells, rated at from 150 gpm to 700 gpm, vary from 300 feet to 500 feet in depth and from 12 inches to 16 inches in diameter. All are equipped with Peerless pumps.

High service equipment includes two DeLaval pumps, one rated at 900 gpm and the other at 1,800 gpm, and both powered by General Electric Motors. Our recently completed program included the installation of a 12-cylinder LeRoi gasoline engine and a 312-kva General Electric generator. This unit provides power for the operation of up to four wells and the largest high service pump.

Wallace & Tiernan chlorinators chlorinate the water as it is pumped into the distribution system at both stations. Simplex venturi meters

a 500,000-gallon tank to the system.



Left:
The Stony Brook wells pump water through aeration nozzles into a 250,000-gallon open top reservoir.

Right:
The gasoline engine-driven generator produces enough current to operate three well pumps and one high service pump.

Two-Stage Program

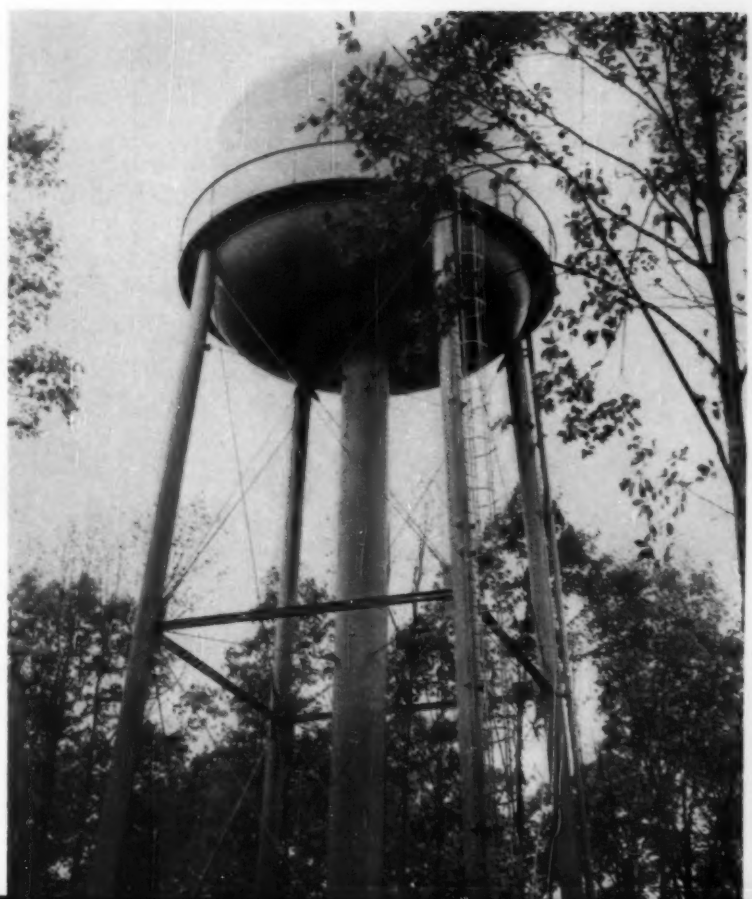
register high service pumpage at the two stations.

Princeton, N. J., like most areas, experienced its greatest growth in the fringe areas. The small mains in the older sections of the city made it difficult to get sufficient water to these new areas. To alleviate the situation, we strengthened our distribution system by adding 8-, 10-, and 12-inch mains to carry water around the small main bottlenecks. A continuous program of eliminating dead ends by looping has also increased pressures in many areas.

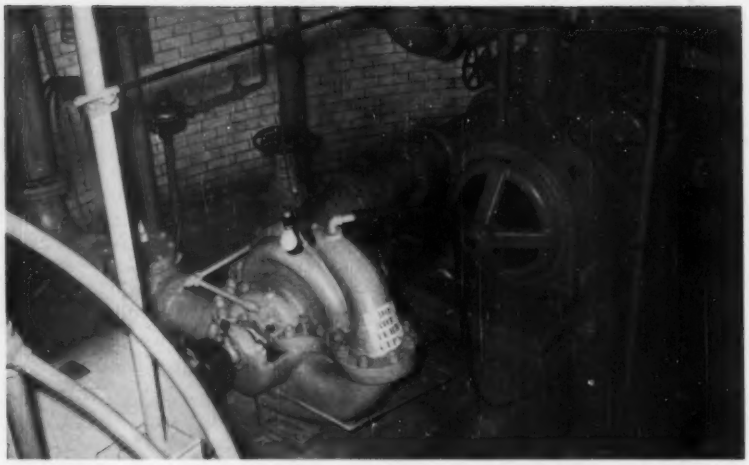
Water Mains

As of December 31, 1956, the company had 19,361 feet of transmission mains and 248,694 feet of distribution mains. Another 120,000 feet of main are privately owned, some of which will be purchased by the company during 1958.

Water mains in new areas must be constructed by the developer in ac-



This new 100,000-gallon elevated tank, serves homes in the Cherry Hill section.



Two high service pumps serve the distribution system from the Stony Brook station.

cordance with company regulations. The company, through various plans, purchases the mains after the streets in which they are laid become public property. The only mains we construct are those used to reinforce the system and eliminate dead ends.

Storage and Boosters

Some of the outlying areas of Princeton Township are quite hilly, and require booster pumps and storage tanks. One of these, the Pretty Brook booster station, serves a high area in the northwest area of the Township. Here two DeLaval pumps, each rated at about 175 gpm, pump into two steel standpipes. The 60,000-gallon tank was built by Tippett and Wood of Philipsburg, N. J., in 1931 and about five years ago we had the Hammond Iron Works of Newark, N. J., erect the 140,000-gallon tank.

We have three other small booster stations, two of which are on one line, the one station pumping into the other.

The Red Hill Road station pumps water to the Woodland Drive station, which in turn serves the new Cherry Hill Road development and a newly constructed 100,000-gallon elevated tank.

Prior to our present program, finished water storage consisted of the two standpipes previously mentioned and a 539,000-gallon elevated tank built in 1914 by Tippett and Wood and located in the center of town. To improve our position regarding elevated storage capacity and also provide better fire protection, we added a 500,000-gallon tank to the system. The Hammond Iron Works erected this tank, located in the northeast section of the Township, and also the 100,000-gallon tank in the Cherry Hill section.

Both new tanks are located in wooded sections well screened from residences. Although the tanks themselves are pleasing in appearance, some complaints are always received concerning their location. To further screen them, they have been painted a light green that blends quite well with the surrounding foliage. A. J. Lanning & Co., Consulting Engineers of Trenton, N. J., handled the engineering work for this project.

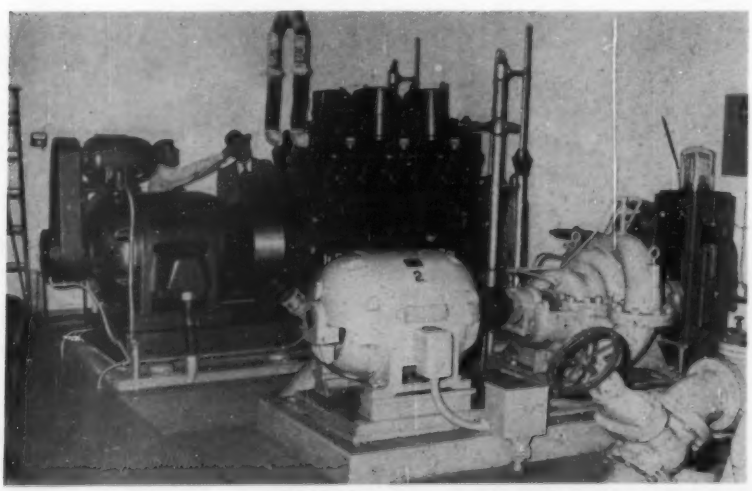
Additional Water

Now that the distribution system is in good shape, we are placing special emphasis on increasing our raw water supply.

The Artesian Well and Equipment Company of New York, which, by the way, does all our well drilling, is now drilling a well in the northeast section of the Township. At least one more well will be drilled this year, and its yield will determine future policy. The new wells will be individual units located away from the existing well fields and spotted throughout the Township. These will pump directly into the system rather than into reservoirs.

As of December 1956 the Princeton Water Company served 4,172 accounts, all metered. We use Trident meters exclusively, made by Neptune Meter Co., and our own personnel does all servicing and installation work.

During 1956 our average pumpage amounted to 1.85 mgd compared to 1.21 mgd in 1942. During that same time Princeton's population grew from 13,000 to 24,000 persons.



Harrison Street station has two high service pumps and a gasoline driven generator.

Princeton Water Company—Organization and History

Ours is a private company with about 60 stockholders. We have 19 employees, including the president, who is the only salaried board member. Present officers include Edward A. McMillan, president; George R. Griffing, vice president; and the author is secretary-treasurer. The eight board members are elected each year to serve a one-year term.

The company was incorporated in 1881 and pumped its first water from dug wells in 1883. The original investment of some $50,000 has grown considerably. Today we have a net worth that amounts to more than $1,333,000.

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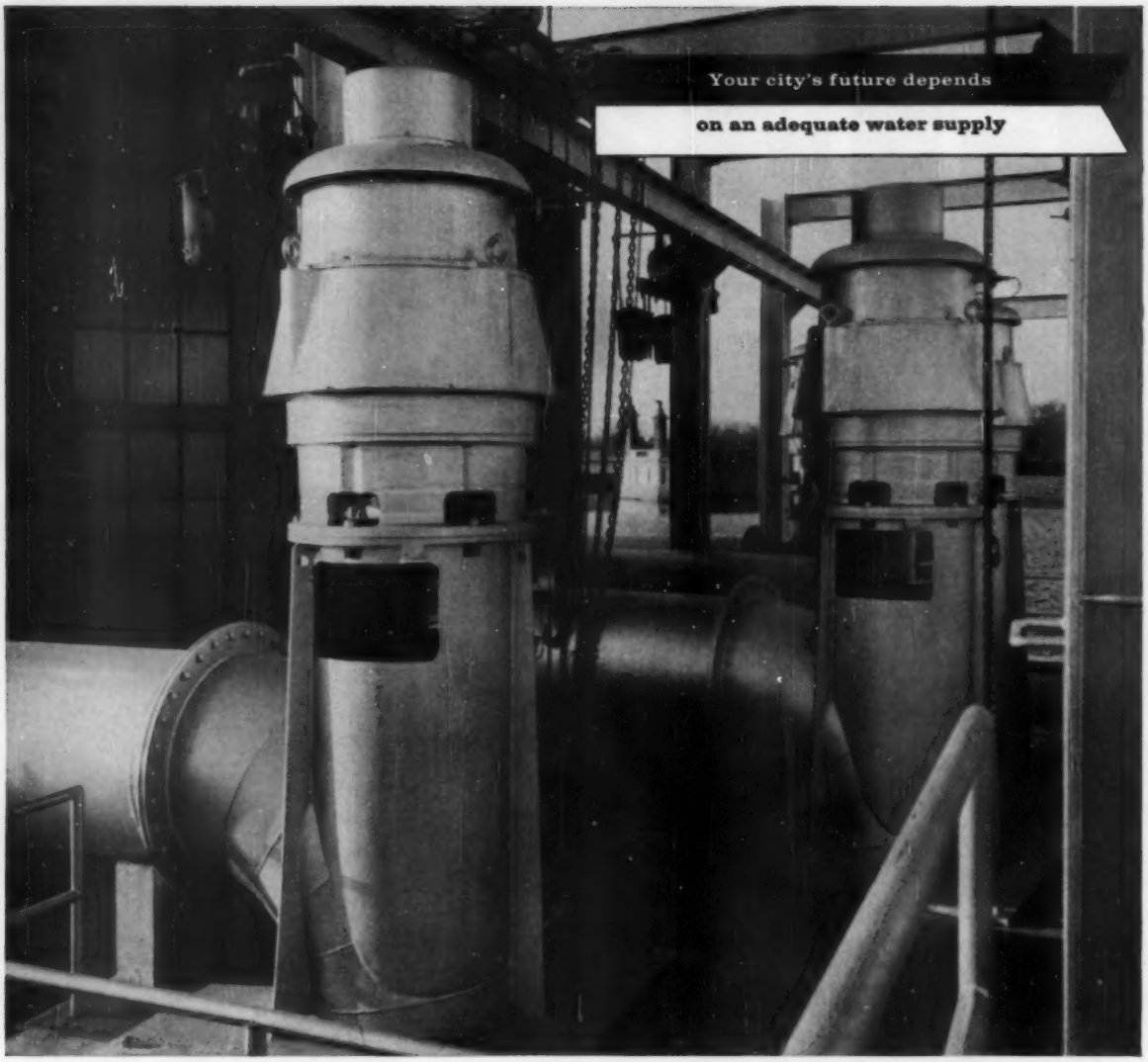

Fairbanks-Morse 36" propeller pumps at intake tower.
Consulting Engineers: Burns and McDonnell, Kansas City, Mo.

Springfield prevents power failure

When low water level at Springfield, Ill., threatened to shut down the Lakeside Power Station because of water shortage for steam condensers, authorities had to work fast.

Within 90 days, a 144 mgd. installation of four new Fairbanks-Morse pumps was in operation at the intake tower in Lake Springfield, raising water level to the safety line in the intake tunnels. Later, two more F-M pumps were working at the new channel dam, maintaining constant levels in the lake. The big pumps, swiftly installed, kept the plant on the line.

Whether your pumping problem is water supply or disposal, municipal or industrial, see your Fairbanks-Morse Field Engineer. He'll be glad to work with your own engineers in planning the most economical expansion of your facilities.

Call him today for complete information, or write to Fairbanks, Morse & Co., Dept. AC-1, 600 South Michigan Avenue, Chicago 5, Illinois.

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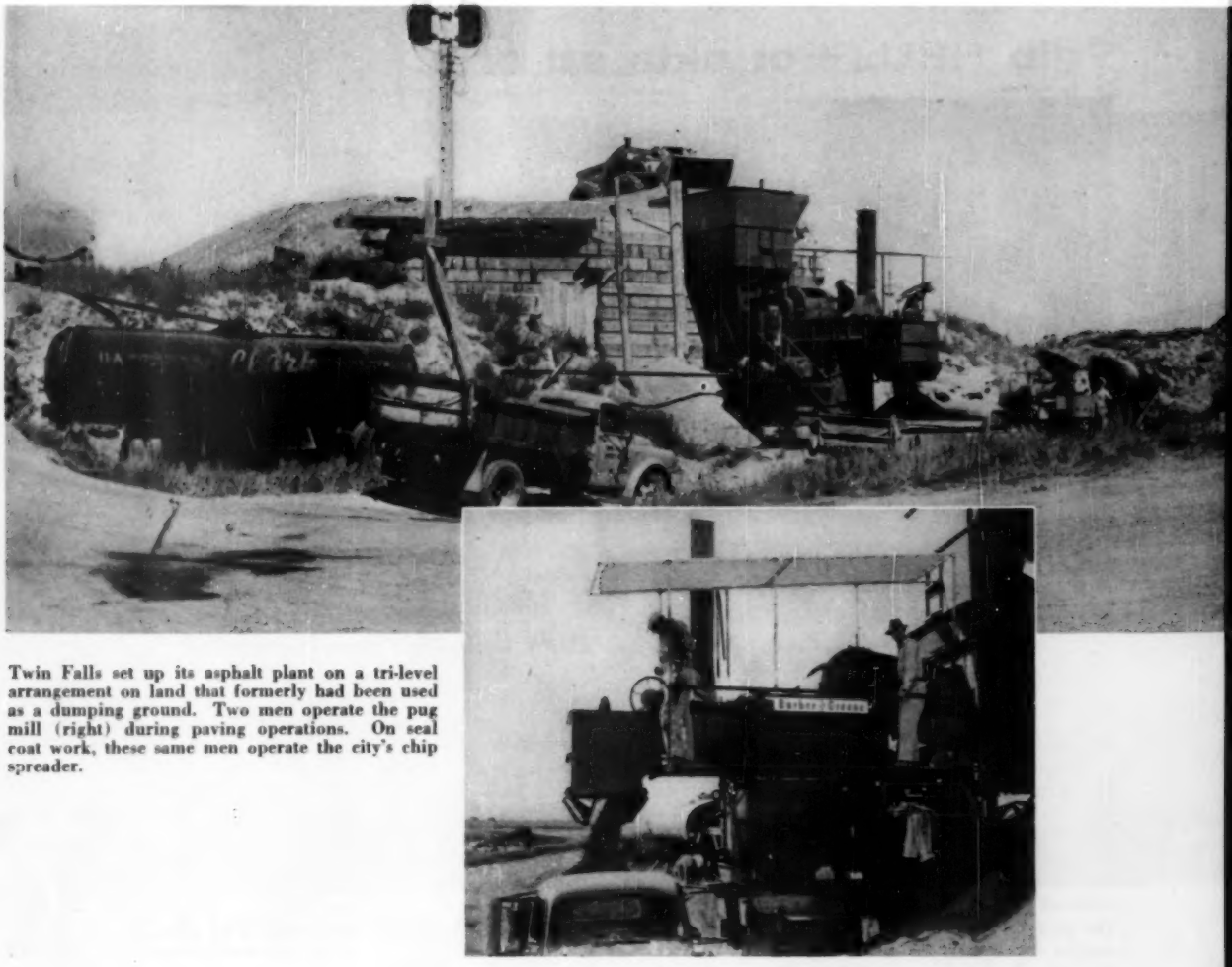


Twin Falls set up its asphalt plant on a tri-level arrangement on land that formerly had been used as a dumping ground. Two men operate the pug mill (right) during paving operations. On seal coat work, these same men operate the city's chip spreader.

Citizen Cooperation Doubles Paving Budget

Construction procedure changed to meet increased demand for paving projects

By H. H. BALLENGER
Superintendent of Streets & Water
Twin Falls, Idaho

TWIN FALLS, Idaho, follows two methods of financing street improvement and resurfacing work. In each case the abutting property owners bear a portion of the cost.

In the one method, the property owners pay the city for the cost of materials used and the city furnishes all supervision, labor, and equipment. Material costs come to approximately 25 cents per square yard for a 4-inch compacted thickness of base gravel, and 50 cents per square yard for 2 inches of asphalt pavement plus a seal coat of asphalt and chips. Our estimate for equipment and labor about equals the cost for material on respective jobs. It is from these computations that we figure contributions about double our paving budget.

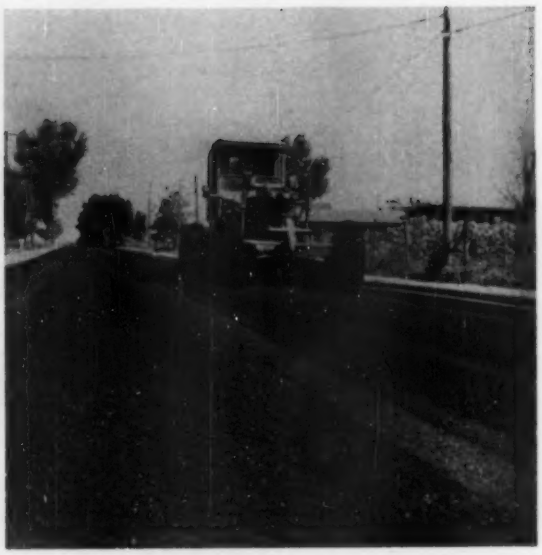
The second method consists of setting up a local improvement district. In this case, a bonding company usually puts up the money. Assessments are payable in 10 equal annual payments plus interest on the unpaid balance. The interest rate equals that charged by the bonding company.

When using this method of financing, we include curb, gutter, and sidewalks where they do not already exist. This work is let out to private contractors on a bid basis, with the city doing the paving work. Assessments include the contractor's charge for curb, gutter, and sidewalk. The cost of material used by the city, and the cost of setting up the paving district.

New Mixing Plant

Prior to 1956, we did all of our black-top paving by road-mix methods, using motor patrols to do the mixing. However, the demand for more paving each year made it necessary to speed up the work. We did this by purchasing a Barber-Greene Model 848 pug mill mixer minus the wheels, axles, and brakes. Our permanent setup did not require

what's it worth ...to be able to FLUSH dig?



Trucks haul asphalt mix to the job site where it is spread by city-owned motor patrols.

the essential use of a mobile plant.

The terraced profile of a former city dump made it ideal for a mixing yard. The three-level setup eliminated the need for a bucket conveyor. A Michigan Tractor Shovel, operating on the third level, transfers the crushed stone from the stockpile to the pug-mill hopper. The mixer occupies the second level and deposits the mixed material into the trucks on the lower level. We produce cold mix without a dryer or gradation unit; but circulate steam, generated by a small Cleaver-Brooks heater, through the steam jacket of the mill.

Construction Material

Material for original construction consists of ¾-inch minus crusher run gravel with MC3 asphalt. For recapping or resurfacing work we use the same binder mixed with ½-inch minus crusher run gravel. The mixing formula for our materials is about 12.5 gallons of asphalt to one ton of crushed gravel. Insulated tank trucks deliver the asphalt direct from the refinery to the yard at mixing temperature.

Paving Procedure

An 18-man crew, consisting of a foreman, two plant operators, a steam man, a tractor operator, seven truck drivers, an unloading checker, two motor grader operators, a roller operator, and two flagmen, handles the paving work. The seven trucks, each rated at 7.5 tons capacity, haul the material to the job for spreading and shaping by the Caterpillar graders. After shaping, a Galion Tandem self-propelled roller compacts the mix.

During seal coat operations the two plant operators operate our Standard Steel asphalt distributor and the grader operators handle the home-made, hang-on type chip spreader boxes.

Plant output is geared to our requirements, averaging about 120 tons per hour, or 1,000 tons for an average day's run. The Barber-Greene mixer has a single aggregate capacity of approximately 300 tons per hour, so should the need arise, we can step up production without adding mixing equipment.

Short Paving Season

We do not have a lengthy paving season. Usually the Idaho climate permits us to work from June 15 to September 15, unless cold or wet spring or fall weather shortens the season. In 1956 the paving crew completed 136 blocks and this year paved about another 110 blocks. No doubt next year's program will be another big one, for Twin Falls property owners like good all-weather streets and are willing to cooperate financially to obtain them.

The city has a population of just under 20,000 persons and operates under the city manager form of government. The work described in this article was done under the administration of City Manager Joe Latimore.

A completed paving job ready for the seal coat. This particular project included new sidewalks and curb and gutter work.

what's it worth ...to be able to FLUSH dig?

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VERTICAL STABILIZERS—Individually controlled, non-slip stabilizer feet let you level-up and hold on slopes, tilt for bell holes. Vertical thrust eliminates excessive cylinder pressure. Note how operator revolves with the boom!

A Davis Loader and Backhoe combination will put money in your pocket by outperforming any other rig—pound for pound, dollar for dollar.

Eliminate those long and costly hours of backbreaking hand labor associated with jobs that require flush digging alongside buildings, fences, hedges, and other obstructions!

Davis is the only backhoe that can do all these jobs . . . and it does them quickly, easily, and profitably. In addition, Davis has a 200° continuous working arc.

You can operate Davis in places inaccessible to other machines . . . or you can set up and be finished before other machines can maneuver into position. You can dump close to the hole for quick refilling, or wide of the hole for easy accessibility . . . even direct-load into a truck.

Davis has unobstructed visibility so you can work fast and accurately in tight situations without having to "feel" your way around the job, nor depend upon shouts and hand signals for instructions. Both the big comfortable seat and finger-tip controls swing with the boom. You ***always*** face your work!

Advanced engineering and top quality construction? ***Yes!, but you will find them priced competitively low!***

Davis Loaders and Backhoes are available for all popular models of International, Ford, Fordson Major, Ferguson, Case, Massey-Harris, Allis-Chalmers, Oliver, John Deere, Minneapolis-Moline, and Work Bull Tractors.

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MASSEY-HARRIS-FERGUSON, INC.
1009 S. WEST STREET Dept. A WICHITA 15, KANS.

You'll see a demonstration of the completely revolving head. The entire head or nozzle section can be faced in any direction with none of the restrictions imposed by ordinary flanges. All that is necessary is to loosen the bolts in the flange.

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We'll show you the optional breakable flange and stem coupling which permit quick repair and thus give the community better fire protection—and you won't have to get out of your office chair!

We mean a scale working model, of course, about 2 feet high and accurate down to the last nut and bolt. As we take it apart for you, you will see quite clearly the hydrant's sound, simple construction, the smoothly rounded changes in diameter which reduce friction and deliver water at full pressure.

It's a really reliable hydrant. Like to see it? Write us today for a demonstration.

R. D. WOOD COMPANY

Public Ledger Building, Philadelphia 5, Pa.

Manufacturers of "Sand-Spun" Pipe (centrifugally cast in sand molds) and R. D. Wood Gate Valves

put money in your pocket by outperforming any other rig — pound for pound, dollar for dollar.

1009 S. WEST STREET Dept. A WICHITA 15, KANS.

More Federal Money for Renewal? President Ponders; Mayors Wonder

CITY OFFICIALS concerned with the progress of their local urban renewal and housing programs are worried over President Eisenhower's declaration that heavier defense expenses will require some domestic programs to be cut or abandoned. When the President made that statement as he announced an accelerated arms spending effort many mayors throughout the country immediately associated it with prior administration actions suggesting an imminent scuttling of federal support for urban renewal. White House officials admitted that the President's comment could be interpreted to include urban renewal among the programs that may have to be cut.

Mayors Bid More Aid

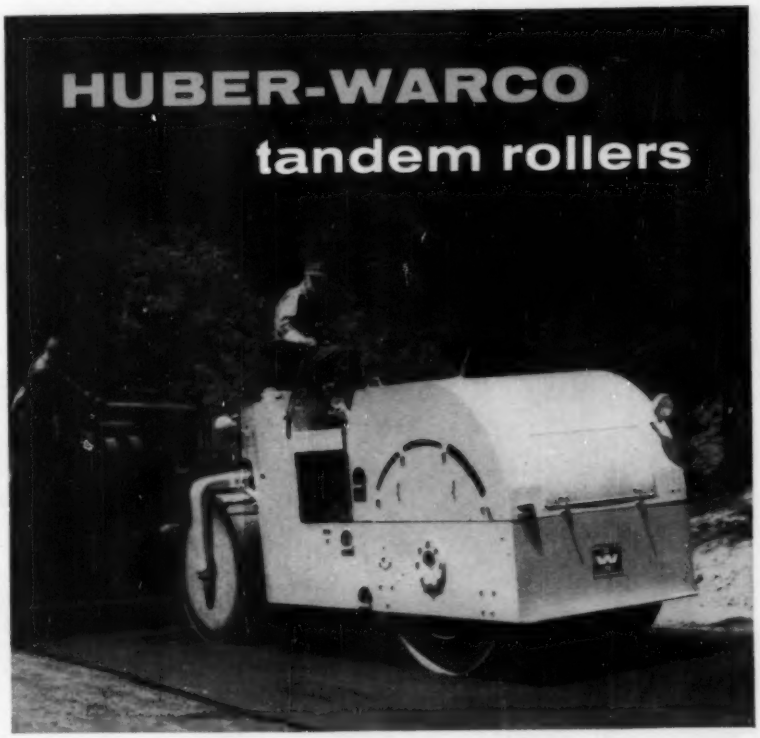
To further impress upon the administration the need for continuing federal aid for slum clearance, two forceful mayors, Richard C. Lee of New Haven and Richard Dilworth of Philadelphia, recently led a committee of municipal chief executives to Washington to restate the municipal viewpoint. The committee represented the American Municipal Association which in turn represents 75% of the nation's municipalities.

The recommendations of the committee were presented to a special committee of top administration officials. They urged:

1. that Congress set aside $500 million a year for a 10-year nationwide "workable program" to eliminate slums and blight.
2. that cities be given a greater degree of responsibility in decisions regarding individual renewal projects to avoid time-consuming federal review;
3. that cities be permitted to receive federal aid for clearing substandard commercial and industrial areas "that are prime generators of housing blight";
4. that the public housing program be "reoriented" to help meet the wider variety of income groups to be displaced by the urban renewal and expressway construction programs.

Renewal Commissioner Optimistic

One light in the gloom was provided a week after the mayors' journey to Washington. Federal Urban Renewal Commissioner Richard Steiner told New Jersey mayors on November 19 that he looked forward in 1958 to a continued support for



efficiency at ALL rolling speeds

Torque converter . . . tail-shaft governor . . . 2-speed transmission . . . factory perfect alignment to the guide roll for the life of the roller . . . two independent braking systems . . . fully lubricated anti-friction bearings . . . are all standard features of the Huber-Warco medium and large size TANDEM ROLLERS. These features add up to top tandem performance and efficiency plus prolonged roller life. Huber-Warco tandem roller models include 5-8, 8-10, 8-12 and 10-14 ton. Also available is the 3-5 ton tandem with a towing attachment or with a retractable wheel attachment. See your Huber-Warco distributor for complete details.

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TANDEM ROLLERS

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American Frost Bottom Meter has frost separable gear train and chamber.

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He says, "I like American Meters because they are so easy to repair. I only need to replace the parts that are worn — no expensive unit assemblies."

Yes, you can take an American Meter apart and reassemble it in less time — this means a lower labor cost for a given repair. And there are not so many parts to replace in a given job — lower parts cost. And finally, you can't put an American Meter together wrong — no lost time.

The smart repairman keeps his department free of obsolete meters by recommending the purchase of American Meters.

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slum clearance from both the White House and the Congress. Mr. Steiner, who spoke at the 42nd annual conference of the New Jersey State League of Municipalities, said urban renewal "is today recognized both at the White House and on Capital Hill as an essential factor in our national strength." He reminded his listeners, however, that there were differences of opinion in Washington on the amounts of federal money needed to maintain a vigorous program. He also noted that in the present defense situation "there will be an impelling need to spend every federal dollar wisely and productively."

Matthews to End Tenure At San Antonio

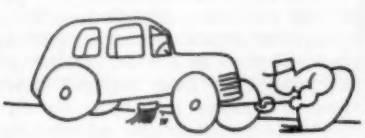
STEPHEN J. MATTHEWS, City Manager of San Antonio, Texas, will assume new duties as the Executive Director of the League of Texas Municipalities on February 15.

Mr. Matthews' resignation came as a surprise. During his administration San Antonio realized stabilized management, sound financing, and improved planning. Though the city will lose Mr. Matthews as a manager, he will continue to serve the best interests of San Antonio, since in his new capacity all Texas cities will be his concern.

Institutes on Air Pollution

COLUMBIA UNIVERSITY'S School of Public Health and Administrative Medicine is conducting Institutes on Air Pollution. The first course was held on December 10 and 11. These are basic orientation courses in the field of air pollution and its investigation and control, and are geared to persons in official and nonofficial agencies having supervisory responsibilities.

Applications for two upstate sessions to be held January 27-28, January 30-31 and the February 25-26 session in New York City are still being considered. Dr. Mabel S. Ingalls, Program Director of Public Health, 600 W. 168th St., New York 32, N. Y., will provide application forms or additional information.



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motor graders

right for any grading job

The Huber-Warco development engineers have designed the motor grader line with the user in mind. In addition to routine grading and maintenance assignments, the Huber-Warco motor graders will spread stone or blacktop, ditch, bankslope, or any other job required of a grader with a maximum of efficiency and a minimum of down-time. Huber-Warco motor graders are available in both torque converter and standard transmission models in a horsepower range of 75 to 195 h.p. Let your Huber-Warco distributor show you the many **plus** features of Huber-Warco motor graders.

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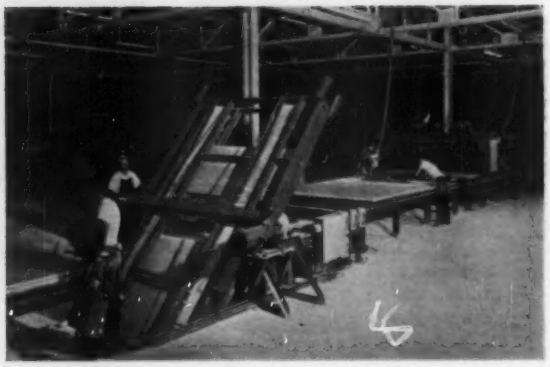
A small home can be erected in 120 carpenter man-hours.



Assembly-line procedure make possible these components.

Prefabrication Provides the Answer

. . . to the problem of quality homes, with a variety of styling, at low cost

LOW-COST homes, with quality construction, and without the monotonous sameness of so many developments projects, is an achievable goal, according to National Homes Corporation, Lafayette, Ind. Prefabrication, built around "component homes" is the key. It permits a family to select the plan best meeting its needs and have it built around the architectural features of a house designed by one of the nation's great architects.

National Homes, this year, is supplying homes built to Colonial styling designed by Emil A. Schmidlin, of East Orange, N. J.; contemporary styling by Charles M. Goodman, Washington, D. C.; Cape Cod styles by Royal Berry Wills of Boston, Mass.; and Southwest modern by Reginald Roberts of San Antonio.

"The tightening of the housing market is a boon to the builder with quality to sell at a reasonable cost, and a blessing in disguise to cities that have to receive these new homes," says James R. Price, president of National Homes. "Since the end of the war, people have had to buy anything that a builder erected. Cities have a right to be indignant with the homes that many builders thrust on them, particularly at the prices they charge. The present economic trend will squeeze out those who build homes that are blighted neighborhoods the day they are erected; and will encourage styling, convenience, individuality of taste, coupled with low cost."

For homes with less than 1,200 square feet of area, the company now is able to offer a 2-ton air conditioner for only $350. For larger homes, the same system is adaptable to zone air conditioning.

The homes themselves can have a choice of exterior and interior wall coverings and floor coverings. They can have either carport or garage, basement if desired, fireplace, electric kitchen, automatic laundry and bathroom fixtures. By using the prefabricated components, only 120 carpenter man-hours are needed to complete a home with 1,056 square feet. All homes have the new and improved roof truss system and 2 x 4-inch wall studs.

"Sandwich" Panel

National Homes is currently experimenting with a new "sandwich" panel which offers the possibility of further economy and greater quality in home building. The panel consists of a 0.016-inch aluminum skin bonded to a back-up material that is in turn bonded to a core. The metal skin carries the imposed load; the back-up material restrains the expansions and contraction of the skin; a core prevents facing buckling.

With this component, a builder can erect a complete panel, including framing, sheathing, siding, roofing, painting, and decorating, thus requiring only the connection of utilities. The panel can carry prefinished exteriors in a wide variety of patterns. They have received high fireproof ratings and have shown superior strength against weather.

This Cape Cod three-bedroom home typifies the neatness of the new prefabricated models. Homes of this type can be erected according to a variety of styles and sizes.

Reflective Pavement Marking . . . what to look for when you buy it

As an engineer, you quite naturally want quality of performance in the pavement marking material you lay down. Yet performance alone cannot be the sole yardstick in evaluating quality because of the cost factor involved. The final selection or recommendation you make, then, actually becomes the result of evaluating all facets of performance in the light of dollar value received.

To help you in this important evaluation, here are a few facts about reflective pavement markings in general, and one product in particular, pre-mixed, "Centerlite" Reflective Compound.

Modern striping unit in Milwaukee, Wisconsin, shows quick, easy one-step application of "Centerlite" Reflective Compound. Reflective beads are pre-mixed in striping compound. Rugged film holds beads in tight grip. Beads give a hard, long-wearing surface to resist traffic wear. You get durability in both reflectivity and in the stripe. You get what you want—performance and economy.

Pre-Mix Durability

Of the two basic types of reflective marking materials, the pre-mix type (where reflective elements are mixed in the compound by the manufacturer) gives you a primary advantage of greater durability. In fact, "Centerlite" Reflective Compound has repeatedly demonstrated its superiority in this department by lasting up to three times longer in actual on-the-pavement tests than other types of reflective markings.

Why the longer life? Because the reflective beads are distributed uniformly throughout the stripe and held in the grip of a rugged film. The characteristics of this film are such that the tightly gripped beads don't flick out easily. Traffic wear is minimized because the film guards and holds the beads in place, and the beads, in turn, provide you with a hard, long-wearing surface.

This durable double-action is an exclusive of pre-mixed striping. Any other reflective stripe type soon loses surface beads to traffic wear, lessening resistance to abrasion and also diminishing its reflective quality as time and traffic pass. The point of durability is a primary advantage of the pre-mix material because it helps give you a *lower* cost per foot per day of useful life. It is certainly one of the things to look for when you buy.

One-step Application Ease

Another significant advantage of pre-mix striping is in application. With "Centerlite" Compound, you have only one item to order, to store, to handle. And because the beads are already in the mixture, you apply the stripe in one fast pass. Humid or windy days pose no problems. The stripe dries quickly . . . and you have reflectivity over every inch of marking, whether on flat or super-elevated planes.

This application ease, too, contributes to lower cost per foot per day of useful life. "Centerlite" Compound can also be easily applied by almost every striper. No settling in the tank, no extra gun wear, no gun clogging.

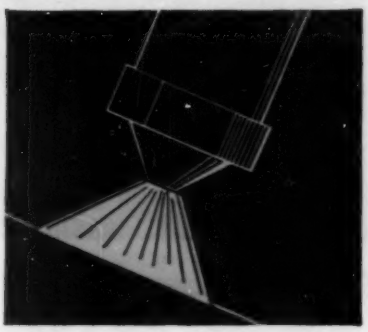
All lines applied on same day. Photo taken after 8-month test proves performance of "Centerlite" Reflective Compound (arrow).

Lifetime Reflectivity

From the safety standpoint, pre-mixed "Centerlite" Compound gives you advantages in lasting brightness that other types of reflective markings can't match.

The reason for this, again, is the fact that the reflective beads are all through the striping compound. So, when your line is laid down, wherever there is paint, there is reflectivity. No chance for spotty, unreflective areas.

As the stripe wears, and they all do, new beads in pre-mixed "Centerlite" Compound are constantly exposed. Reflectivity *lasts the full life of the stripe.* You get, combined with the *lower* cost per foot per day of useful life, the *highest* performance factor. And this is the combination that means you get the performance you look for and the economy you demand.



New "Centerlite" Compound gives you easy, one-step application. Pre-mixed reflectivity stays uniform even on superelevated sections.

Your 3M Distributor or Representative will be happy to supply you with more facts as well as with "Centerlite" Compound itself. Or write to the 3M Company, Dept. AB-18, St. Paul 6, Minnesota.

REG. U. S. PAT. OFF.

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BRAND

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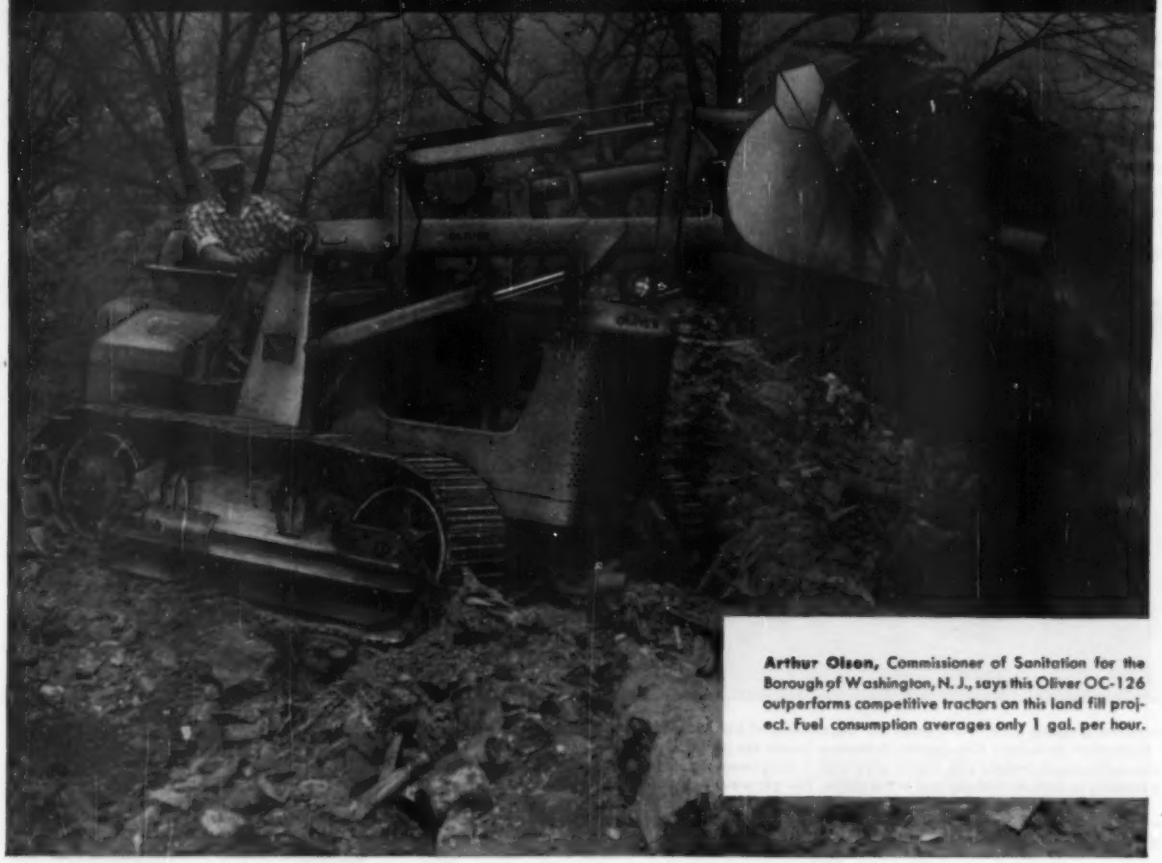
MINNESOTA MINING & MANUFACTURING COMPANY—Where RESEARCH is the key to tomorrow

OLIVER OC-126 LOADER

with new POWER-TURN steering



Arthur Olsen, Commissioner of Sanitation for the Borough of Washington, N. J., says this Oliver OC-126 outperforms competitive tractors on this land fill project. Fuel consumption averages only 1 gal. per hour.

Now – you can cut your sanitary land fill costs

HERE'S WHY: Oliver's exclusive POWER-TURN gives you a more maneuverable, faster working tractor. In this kind of spongy, rubbish-strewn footing POWER-TURN means perfect traction. You have full power on *both* tracks at all times for those frequent turns and tight maneuvers. You have extra digging-in power with instant planetary speed reduction —to break through banks or work grades and slopes. All around, here's the easiest handling crawler in the business.

The OC-126 is designed especially for loader work, with extra heavy frame and crawler frames rigidly mounted to main frame to take the most severe stresses. The big 1½-yd bucket is hydraulically controlled with fast roll-back and full rotation for easy filling and dumping. Oliver's famous high-torque diesel delivers 53 drawbar h.p. to keep production moving at top speed.

On many land fill projects this *one* machine can handle the entire job—trenching, filling, compacting and covering—and at a small investment. Ask your Oliver distributor to demonstrate. Or write for literature.

OLIVER

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a complete line of industrial wheel and crawler tractors and matched allied equipment

By DON E. BLOODGOOD
Professor of Sanitary Engineering
Purdue University
Lafayette, Ind.

Some reasons for regulations about . . .

What You May and May Not Put into a Sewer

GASOLINE and other volatile combustible solvents cannot be tolerated in a sewer system or treatment plant.

Explosive solvents are dangerous; small amounts can cause serious trouble. Even light oils will interfere with the decomposition processes by coating the solids and excluding the oxygen that must get at the bacteria. Small quantities of oils discharged daily accumulate in the digestion tanks and interfere with their operation.

Feathers from poultry houses also should not be carried in sewers. They can clog trickling filter nozzles and cause other trouble. These feathers are not difficult to collect in the poultry houses, and can reasonably be excluded from the sewers.

Hair from tanneries and meat packing plants also should be excluded. Hair can be removed by sedimentation, but mats and does not decompose in the digesters. It does not seem unreasonable to require tanneries and packing plants to keep hair out of sewers.

Lime sludge from water-softening and acetylene-generating plants should not be put into a sewer. The only exception would be at those few plants that can use the sludge in the purification process. No digester could function, full of this sludge.

Rate of sewage discharge, particularly from industrial plants, also ought to be subject to control. These fluctuations cause no particular difficulty in the sewers, but can cause complications in plant operation unless it has some way to equalize the flows, such as a large trunk sewer that can act as a reservoir.

Temperature of wastes discharged to the sewers also ought to be subject to some regulation; however, this should be tempered with judgment. Warm sewage can accelerate bacterial decomposition and generate odor nuisances. However, the activated sludge and trickling filter purification processes respond rapidly at temperatures between 100° and 110° F.; thus, in some cases, warm water may be helpful. Extremely hot water can harm sewer joints, and extremely cold water will retard bacterial action.

Extreme variations in pH of the sewage also ought not to be permitted. Bacteria that do the purification work are sensitive to pH. Acids also can harm some sewers.

Wastes toxic to bacteria should be excluded. For example, copper, detrimental to the purifying bacteria, cannot be removed economically by any purification method that we commonly use. Chromium, zinc and cyanide are examples of other toxic products that we should not have to put into a sewer.

Ground garbage ought to be permitted in any sewer. Some communities have written ordinances prohibiting it. These regulations do not seem reasonable. Garbage is organic matter similar to sewage solids, decomposing in much the same manner. It settles out readily in primary sedimentation tanks. It can be pumped without trouble as sludge; it will digest, producing gas of approximately the same quality. Experience has shown that it causes no trouble in the sewers. It will add a greater load on the treatment plant, but it is not a load that causes trouble. There really seems to be no good reason to exclude garbage ground in kitchen grinders.

Some ordinances also wrongfully place a limit on ***the strength of the sewage*** in terms of solids and biochemical oxygen demand. The cities reason erroneously that these limits provide an equal distribution of costs of treatment. Actually, no industry should be penalized for contributing a concentrates waste, particularly if it pays on the basis of pounds of solids or biochemical oxygen demand in the sewage.

All these regulations must be applied with care. No one yet has written a perfect regulation applicable everywhere. Until some genius does write one, we must rely on the good judgment of those who discharge the wastes and those who are in charge of its collection and purification.

EDITORIAL NOTE: This article was excerpted from a recent talk by Mr. Bloodgood, made before the American Public Works Association Congress in Philadelphia, Pa.

Left:
Exterior of the new $7,500,000 City Hall building in New Orleans, La. Workman is checking the dimensions of the duct air-conditioning section prior to installation.

Right:
An engineer checks the air-conditioning ductwork of Wheeling Sof-Tite in the new City Hall

New Orleans City Hall--Big and Cool

NEW ORLEANS, La., has transferred its government from the 107-year-old City Hall on Lafayette Square to a beautiful 11-story structure in the city's Civic Center development.

The Exterior

The new City Hall, with its enormous expanse of glass windows reaching out almost three city blocks, is in sharp contrast to the venerable City Hall constructed in 1850, which is considered one of the finest examples of Greek Revival architecture and is to be preserved as a historical landmark.

The new City Hall brings together municipal offices, formerly scattered in 10 different buildings in the city. It commands the 11-acre Civic Center development, an area in the heart of the central business district which was formerly a rock-bottom slum. The exterior of the building is aluminum, glass and limestone. Trim of the exterior is granite. The aluminum work was manufactured by Cupples Products Co. The limestone is Rockwood Alabama limestone. The glass is Solex and Spandrelite, made by the Pittsburgh Plate Glass Co. In the main entrance of the building there are two (2) sandblasted reliefs in the granite. One of these depicts the landing of Bienville and his trading with the Indians on the original site of the City of New Orleans; the other contains the Shield of the city with the Dedication Plaque, including the names of the Mayor, the Councilmen, architects and contractors. Four other public buildings are under construction in the 22½-acre area.

Access to the front of the City Hall is from newly-widened and newly-lighted Perdido Street (new mercury vapor lighting has been installed on all of the streets surrounding the Civic Center). Walking up several low steps, you find yourself standing on a wide terrazzo terrace leading up to the front entrance.

Interior

If you are a citizen of New Orleans, you will find that the ***first floor*** of the building has been designed for your convenience. Here you will be able to register to vote, get a birth certificate, apply for a marriage license, pay your taxes or your water bill, and apply for a civil service examination.

Also located on the first floor are the New Orleans Recreation Department, units of the Health Department, the Division of Housing Rehabilitation, Clerk of Council, units of the Finance Department, the Press Room, and a nonsectarian Prayer Room. The other departments and divisions of the City Government are located as follows:

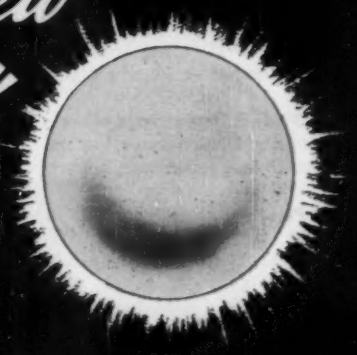
Basement: City archives, the Bureau of Purchasing, the storage room, the print shop and central supply rooms, and the Pest Control Section of the Board of Health.

Second Floor: The Mayor's Office, Chief Administrative Office, the Offices of City Councilmen, City Attorney's Office, Utilities Department, Property Management Department, Railroad Terminal Board, Budget Analysis and Research Office, and Public Relations Office. The council chamber contains a voting indicator board and public address system with recording equipment for council proceedings. This was furnished by Executone, Inc., New York 17, N. Y. The voting board and loudspeakers for the council chambers have repeater units in the Mayor's office so he may continually be informed of the proceedings in the council chamber.

Third Floor: Finance Department

Announcing the New

"FLEX-O-LITE 831"



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Gentlemen:
Please send full particulars about Flex-O-Lite's New 831 Reflective Sign System.

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and the lunchroom for employees.

Fourth Floor: City Planning Commission and Assessors.

Fifth Floor: Sewerage and Water Board.

Sixth Floor: Department of Streets and units of the Sewerage and Water Board.

Seventh Floor: Department of Safety and Permits, Civil Service Department, and Fire Prevention Department.

Eighth Floor: Units of the Health Department, the Board of Liquidation City Debt, Civil Defense, Board of Standards, City Decorator, Municipal Employees Credit Unit, City Welfare Unit, and the Labor Relations Office.

The entire ***ninth floor*** of the building has been set aside for future expansion and is being temporarily used for storage. The headquarters of the city's new telephone-type Fire-Police-Emergency alarm system is on the tenth floor as is the air conditioning equipment.

Cool

In building and designing the high-pressure air-conditioning ductwork, Cop-R-Lay SofTite was chosen because it could be shaped without preliminary cutting and could be jointed without shearing waste. Duct sections for this project were 4 feet in length, which is the exact size in which the SofTite was ordered from the Wheeling Corrugating Co., Wheeling, W. Va.

The use of SofTite resulted in the elimination of preliminary cutting (an average of 10 to 20 minutes is needed for pre-jointing work on a 4-foot section) and the efficient forming of joints without accidental cuts. More than 1,600 sections of galvanized sheeting were utilized for the horizontal air distribution ducts together with 62 vertical shafts running from the ground or second floors to the tenth.

The air-conditioning system is a dual Carrier conduit Weathermaster system having a continuous 100,000-cfm fresh air intake, and is operated by two steam turbine-driven centrifugal compressors located on the tenth floor. They are of 500-ton and 1,000-ton capacity. A part of the system is the Honeywell Supervisory Data Service unit. Design specifications provide for 95-degree and 78-degree with operation at 75-degree at 50% relative humidity. Air velocity is rated at 5,000-fpm at 8 inches of water pressure.

The dual system, with interior and exterior zones, is accomplished by providing each of the two major faces of the building with its own primary air unit and separate secondary system. Gas fire steam is used where feasible throughout the system, while air distribution is carried out through 28 large central air-conditioning units and 1,122 small air-handling units for perimeter control. The small units are spaced at 20-foot centers along the two major wall faces, 52 units per floor.

In addition to its efficient layout and air-conditioning, one of the building's features is its excellent lighting system. The lighting fixtures used in the general office areas throughout the building are manufactured by Daybright Co., and are of a design used first in this building. The main lobby lighting fixture was constructed by Smithcraft, Lighting Division, Chelsea 50, Mass., and the council chamber lighting was furnished by Rambusch Decorating Company, New York 11, N. Y.

Parking Facilities

The rear and the sides of the building feature vertical louvres which provide a shield against New Orleans' subtropical sun, and present a pleasing appearance. Public parking spaces surrounded by formal shrubbery stretch across the rear of the building, and jutting out from the west wing is a four-level garage for 350 city-owned cars.

The new City Hall building was designed by the architectural firms of Goldstein, Parham & Labouisse and Favrot, Mathes and Bergman. The engineers were DeLaureal and Moses, and the general contractor was the R. P. Farnsworth Company. All are of New Orleans, La.

Cincinnati's In-Service Training Includes A Drivers' School

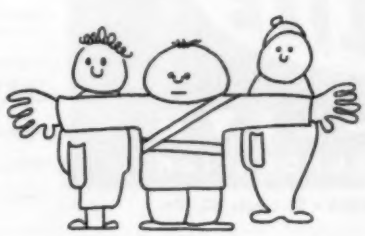
CINCINNATI'S Personnel Department Driver Training School for city employees who drive city cars opened last October with an added objective.

The aim of this year's program, to be carried on as usual for two full working days each of the next 10 months, is to include foremen and supervisors in the enrollment. Thus, they will realize through actual experience, the nature and scope of the training received by their subordinates and be able to coordinate their own orders and instructions with it, drying up a potential source of friction.

Course Curriculum

Among the orientation, lecture, and discussion sessions, case histories, and integrated road tests, all of which cover the entire field, are those devoted to accident reports, procedures and actual practice; legal and financial responsibilities; civil service rules; value of good driving record; the accident picture, the police traffic safety viewpoint; and driver attitudes.

Preventive maintenance is taught with working models of chief automotive assemblies, and lubrication and brake films. Liberal use is made of appropriate training films, including "Ten Basic Accident Causes," "Meet Death," "Day in Court," "Your Permit to Drive," and "We Drivers." Faculty includes personnel and safety technicians, police traffic officers, highway maintenance and safety lane officials and the traffic engineering staff.



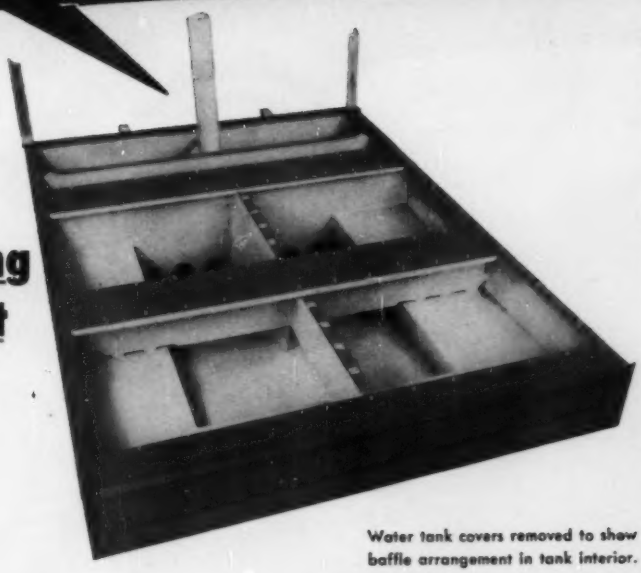
Attendance on the school follows selective nomination by department heads. Completion cards are awarded to participants whose attendance and test records are adjudged to be up to the school's rigid standards.

Accident Prevention

This year's emphasis is also being placed on prevention of city passenger car accidents. Mishaps involving city trucks are now at a minimum due to earlier emphasis in the school.

The Cincinnati program has been successfully adopted at several other governmental units in the country. A limited number of copies of the program outline is available on application. Write Office of the City Manager, Cincinnati 2, Ohio.

There's Extra Value in American-LaFrance Fire Engines ...



Water tank covers removed to show baffle arrangement in tank interior.

✳ Water tank construction with sloping bottom and deep outlet sump guarantees complete use of full water capacity . . .

All water tanks produced by American LaFrance are designed for effective fire service use and long service life. All water tanks, including baffles, are corrosion resisting heavy gauge steel (10 gauge) formed and electric welded before Zincilate processing for added corrosion protection.

The water tank illustrated is 500 gallon capacity. 750 and 1000 gallon tanks also have these Extra Value features.

1. Water tank is removable from body.
2. Removable covers to permit inspection and cleaning of every part of tank.
3. Deep sump outlet permitting withdrawal of rated tank volume before drawing air.
4. 2½ inch diameter outlet pipe for 200 G.P.M. flow to supply booster lines or two 1½ inch lines.
5. Sloping tank bottom to insure full volume for use when standing on a grade.
6. Front fill or rear fill optional.
7. A four inch diameter vent and overflow permits safe hydrant fill and no spilling on fast turns or stops.
8. Flange mounting for water tank level gauge float unit.

All of the above Extra Values, plus many more, are found only in American LaFrance built fire engines. Ask for Brochure, its free.

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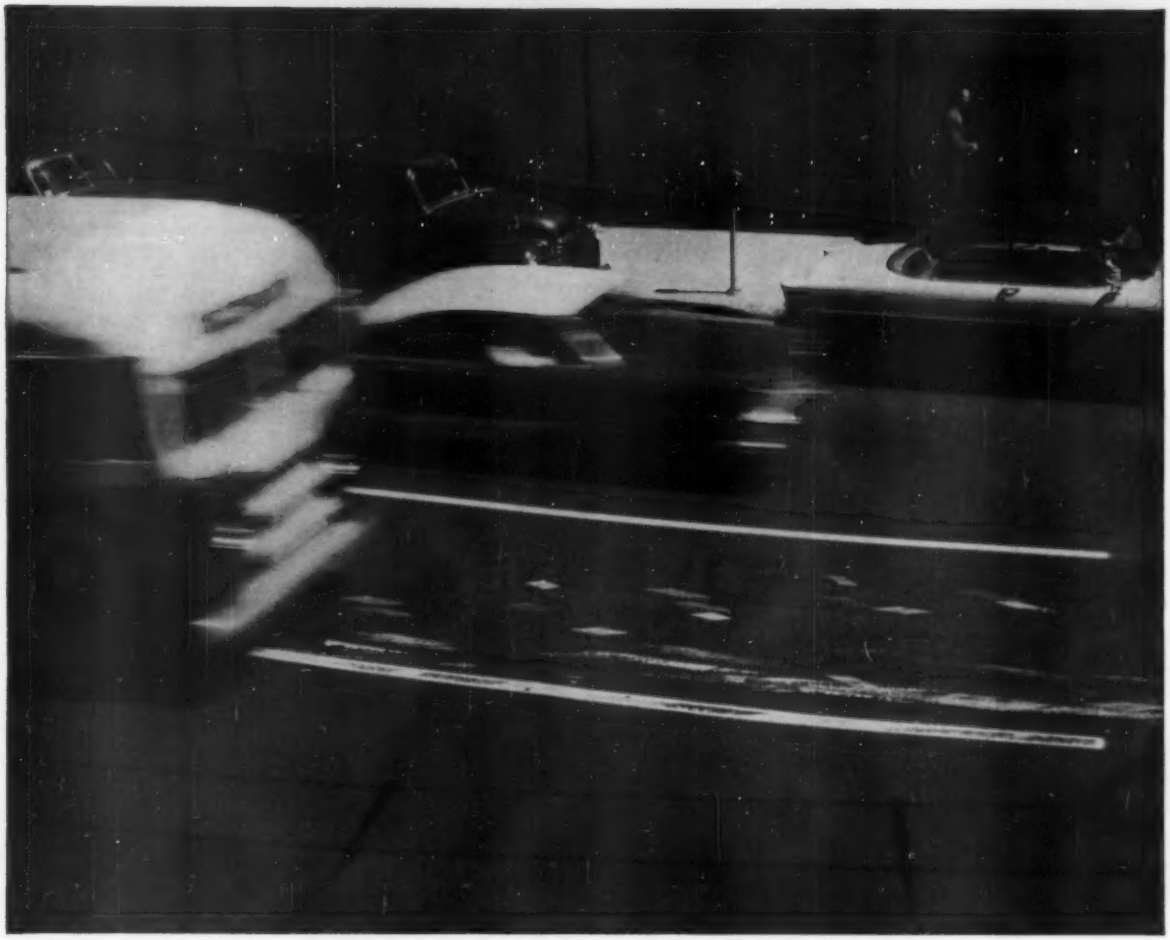
LaFRANCE FIRE ENGINE—FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA

✳ SPARTAN 1000 G.P.M. Class A Pumper



THIS TRAFFIC PAINT DRIED TOO SLOWLY

. . . A Parlon-based paint dries FAST!

Here is a typical city street. Its near traffic lane has just been repainted. The striping crew—using modern equipment—laid the line with care and protected it with an adequate number of traffic-control cones. But traffic didn't cooperate. And the paint was slow drying. RESULT: A smeared line; unsightly, unclear, and one that will soon be worn completely away.

MORAL: A good traffic paint *must dry fast*. Formulations based on Parlon® chlorinated rubber *do* dry fast—and they are unexcelled for long-term durability, too. Ask your regular paint supplier, or write us for further information on how the *right* Parlon-based formulation can save you time, money, and headaches.

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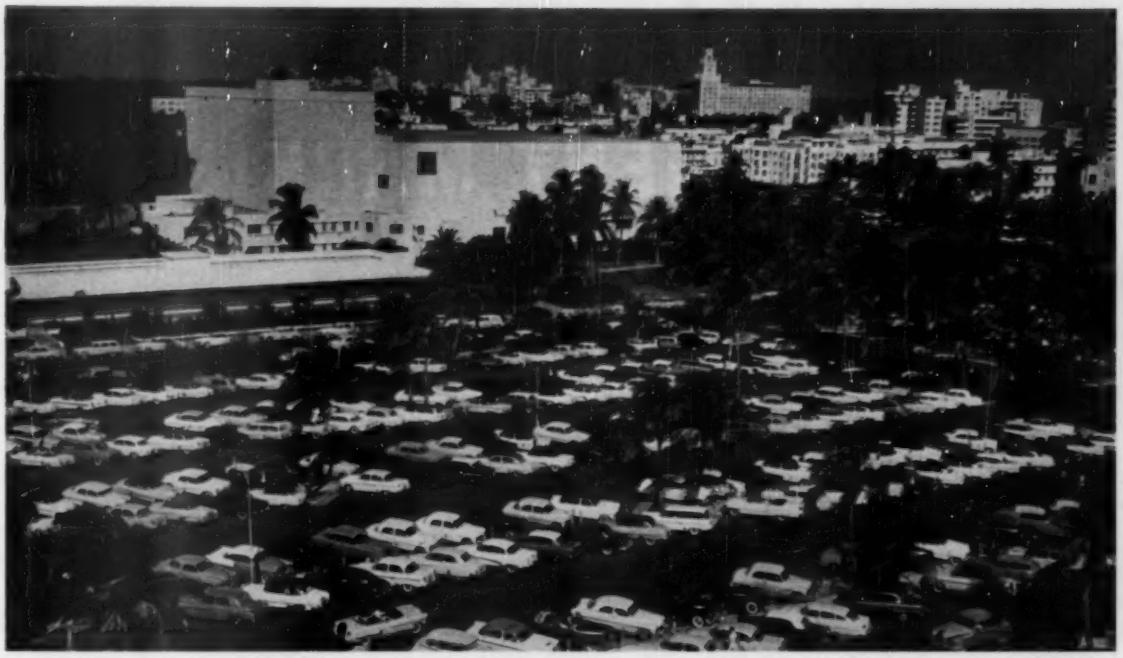


Latest of 22 off-street municipal parking facilities in Miami Beach, Fla.

Miami Beach Parking Meters 65% Busier

By MORRIS N. LIPP, *City Engineer*

MIAMI BEACH, one of the pioneer cities in development of municipal off-street parking areas, is reconciling the problem of increased parking demand and lack of expansion space in the only logical way.

Famed Lincoln Lane, developed in 1944 as the city's first off-street area, will be double-decked in 1958 to provide 684 more parking stalls. This is a one-third increase over the present off-street spaces serving Lincoln Road, Miami Beach's main shopping thoroughfare.

Miami Beach, as a resort city, must design all its municipal buildings and parking areas to enhance the landscaped beauty for which it has become famous. Plans for a two-level, open-air building call for a graceful, streamlined, yet efficient, use of structural steel. The present layout of stalls will be rearranged from east-west to north-south lanes. Parking will be changed from diagonal to right angle to provide extra spaces. There will be three double ramps to make access and exit easy for motorists. Pedestrian stairs will be in strategic locations.

Cost of the transformation will be approximately $1,000,000, financed by revenue bonds. Miami Beach's metered parking system is one of the city's most successful ventures, both financially and as a solution to an almost unique parking problem. Revenue bonds marketed to inaugurate off-street areas are being retired ahead of schedule. All operating costs are borne by the system and comfortable surpluses are recorded each year.

Yearly revenue from the 4,800 Duncan-Miller meters and the 2,500 Mark-Time meters has shown spectacular gains. The total for 1956 was $719,389 compared with $217,756 for 1951, the first year the present accounting method was in operation. Average meter take also has increased, even though meters are added to the system each year. In 1951, the average take per meter amounted to $59.20 and in 1956 it reached $97.44.

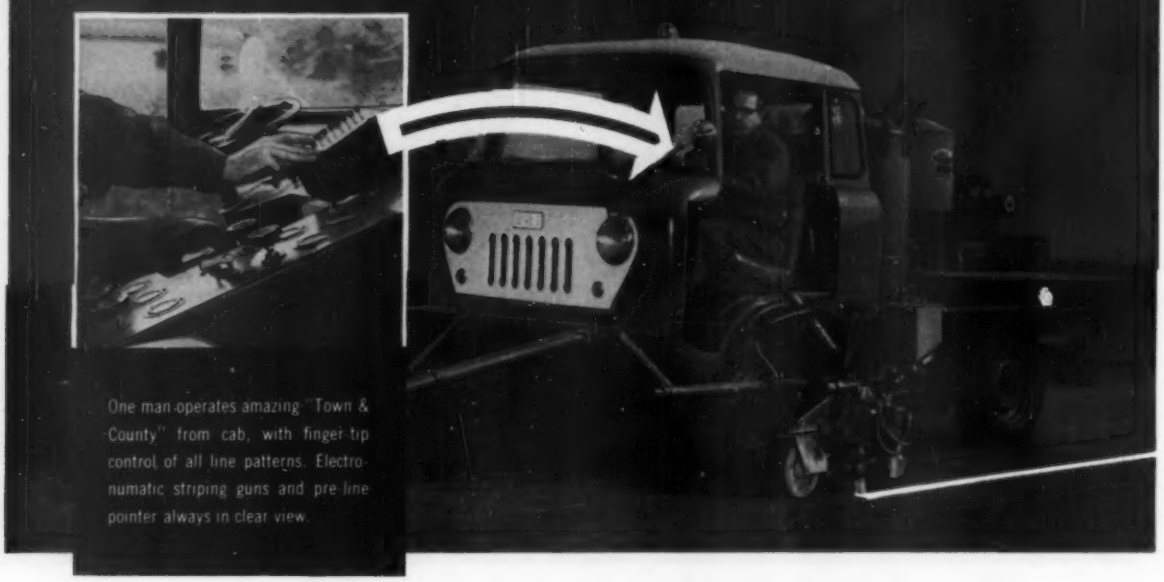
1938-1958

Miami Beach began its parking system in 1938 with the modest purchase of 140 meters. Authority for the first off-street area was given by the Florida Legislature in 1941. Today, the city has close to 8,000 meters, divided almost equally between on-street and the 22 off-street areas.

Miami Beach's postwar parking problems were noted early by city officials. In addition to population increase, the permanent population is tripled during the height of the winter season.

In December 1945, City Manager Claude A. Renshaw detailed a plan which would enable the city to meet current and future parking needs. The details covered (1) use of municipally-owned land for off-street parking; (2) purchase of additional land in congested areas,

PUSH-BUTTON PAVEMENT MARKING!



One man operates amazing "Town & County" from cab, with finger-tip control of all line patterns. Electro-numatic striping guns and pre-line pointer always in clear view.

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NOW GO PLACES AND DO THINGS WITH THE TALENTED "TOWN & COUNTY"

- Four-wheel drive with automatic speed pilot
- Striping speeds from 3 to 10 MPH
- Short radius turning . . . over-the-road speed up to 60 MPH
- One man operation . . . operates in one lane
- Wald pneumatic guns electrically controlled from panel
- Finger-tip control of automatic skip-line regulator
- Parallel action gun ride for uniform width stripe
- Gun assembly lifts pneumatically, pilot folds for traveling
- Compressor works from power take-off, for quiet efficiency
- Two-gun operation . . . three-gun position optional
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Write, phone or wire today for more information.

WALD INDUSTRIES, INC.
HUNTINGDON, PENNSYLVANIA

and (3) the installation of meters on all the city's busier streets.

The plan was adopted and a $300,000 general obligation bond issue financed the initial cost. By 1949 it had become obvious the program must be accelerated, and that meter revenue could justify revenue bonds. In 1951, a $1,480,000 parking bond issue was sold, chiefly for the purchase of land.

Separate Parking Meter Fund

The metered parking system is operated as an independent enterprise of the municipal government. All revenues are kept in a separate fund. After all financial commitments of maintenance, operation, interest charges and bond retirement are met, the surplus must be spent according to the bond covenant. One-third is slated automatically for further bond retirement. The balance is used to improve and expand the system and/or retire more bonds in advance of maturity.

The double-decking of Lincoln Lane is part of a major expansion move planned by the city. In addition to the normal increase in parking needs, a 200,000-square foot exhibition hall under construction adjacent to Miami Beach's municipal auditorium, located just north of Lincoln Road, is creating the need for many more parking spaces. To meet this need, a contiguous plot of municipally-owned land is undergoing development.

Other sections of the city, too, are showing their need for additional parking facilities. Fortunately, Miami Beach has a plan—conceived more than a decade ago. This plan called for careful purchasing of land, using need rather than price as the criterion. Hence, there is room to expand in most areas. Miami Beach also has an efficient metered parking system, so organized that expansion cannot alter its successful functioning.

Safety Cones Change Traffic Patterns Quickly

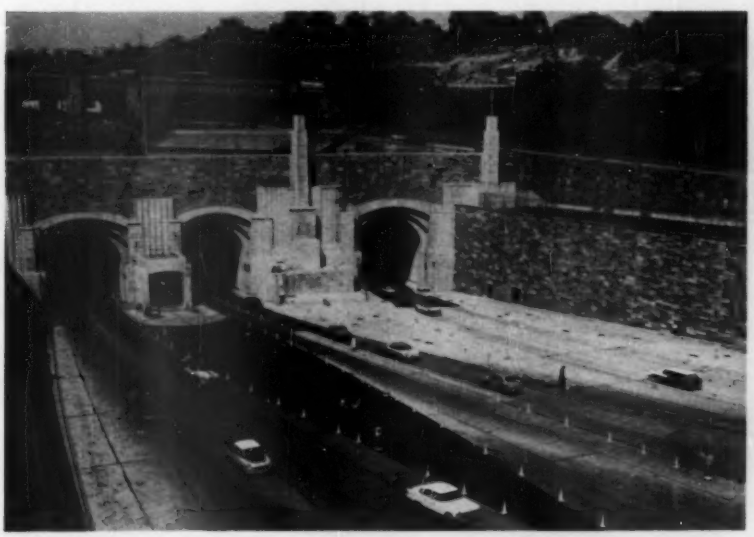
HEAVY traffic volume at The Port of New York Authority's trans-Hudson vehicular crossings—more than 35,500,000 vehicles were handled at the George Washington Bridge alone in 1956—require the utmost flexibility and speed in traffic handling procedures. The use of lightweight yellow rubber safety cones permits quick, safe changes in the direction of traffic lanes between New Jersey and New York, both on the main span and approaches of the George Washington Bridge, and the approaches to the three-tube Lincoln Tunnel.

This has not always been the case. Prior to 1948, the Authority used metal stanchions to separate roadways, close off traffic lanes or channel traffic at its Hudson River crossings. These stanchions, equipped with a heavy metal or concrete base, were awkward to handle, and changes in traffic patterns could not be accomplished quickly.

In certain areas where a line of stanchions was required, a connecting electrical cable with a red globe atop each stanchion was employed to make them visible at night. This restricted the use of stanchions to areas where electrical outlets were available. When snow storms necessitated extensive plowing, removal of the heavy metal stanchions meant a great deal of time-consuming, manual labor.

About 1948, experimentation began at the George Washington Bridge with rubber cones. It was found that rubber cones were easily seen by motorists, both in daylight and during the hours of darkness. When they had to be moved, it was done easily and quickly. In areas where they were not required at all times, the hollow cones could be stored one atop the other without consuming much space. When a cone was struck by a vehicle, there was no damage to either the cone or vehicle. It was decided that wherever possible the rubber cones would replace metal stanchions.

The yellow traffic cones are used to change traffic flow pattern on the George Washington Bridge main span as well as the approaches in both states. The

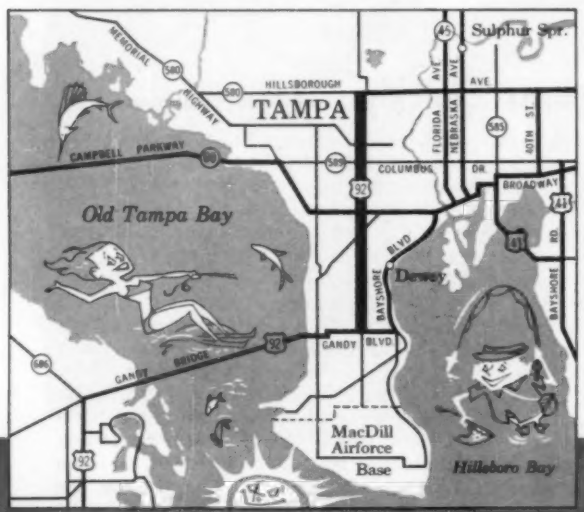


Traffic cones are used to mark the New Jersey plaza of the Lincoln Tunnel (left). At the New York exit of the lower level (above) Parkway traffic is guided by safety cones.

There are brighter nights ahead...and HAPCO points the way

Day by day, the rapid growth in our network of freeways, express roads, parkways and toll roads becomes more apparent. Each business trip, every vacation tour exposes wider, straighter, smoother and safer highways. At night, thanks to modern lighting methods, these "super" expressways maintain high levels of visual safety. Slim, trim Brackets and Poles by Hubbard Aluminum Products Company support the luminaires in an ever increasing number of these modern installations.

For example, a recent Florida installation by Tampa Electric Company lights up a busy seven mile stretch of four-lane Dale Mabry Highway. From the northern City Limits to Gandy Boulevard, traffic moves easily and safely, day and night, over this heavily travelled section of U. S. Route 92. The job required 259 mercury vapor luminaires, all supported by HAPCO Brackets. In the complete HAPCO line of Standards and Brackets are designs for all types of modern, low-maintenance outdoor lighting installations. For more information, write to Hubbard Aluminum Products Company, 6301 Butler Street, Pittsburgh 1, Pa.



HUBBARD ALUMINUM PRODUCTS COMPANY

Division of Hubbard & Company
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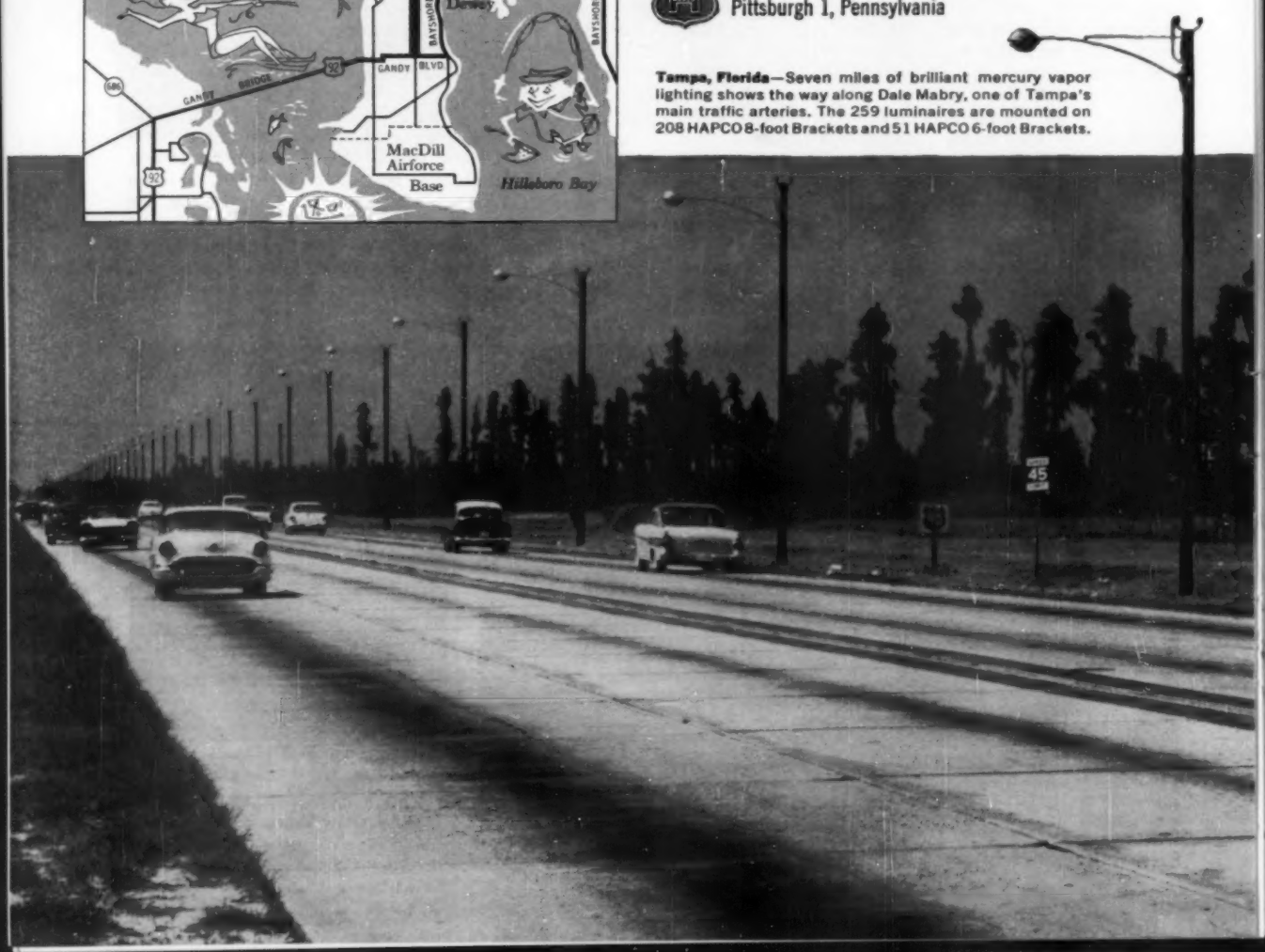


Tampa, Florida—Seven miles of brilliant mercury vapor lighting shows the way along Dale Mabry, one of Tampa's main traffic arteries. The 259 luminaires are mounted on 208 HAPCO 8-foot Brackets and 51 HAPCO 6-foot Brackets.

lightness of the cone makes it handy for a man walking to swing the cones from premarked spot to spot with rapidity and certainty, resulting in a neat, orderly change of traffic flow pattern. Formerly, it would take four men up to 25 minutes to change the direction of traffic in a lane. With rubber cones, two men can make the change in ten minutes or less. Reversing toll booth direction can be done by one man in a matter of minutes to favor the heavier flow of traffic. In addition, the cones are a handy adjunct to closing off areas, roadways, repairs or simply line marking.

With three-tube operation at the Lincoln Tunnel since the opening of the $100,000,000 Third Tube last May 25, the physical area to be covered is much greater than before and the rubber cones are invaluable. They serve their most vital purpose in their arrangement on the plazas and approaches during changeover periods when it is necessary to alter traffic patterns in the center tube to the preponderant direction of travel. Also, they channel traffic into the tunnel and into the toll lanes. They are used to divide the tolls plaza for eastbound and westbound traffic. In addition, in the eight-block Lincoln Tunnel Expressway on the Manhattan side of the tunnel. they are used to separate lanes of traffic and to minimize hazard to motorists at the many merging areas. With the use of rubber cones, exposures to motor vehicle accidents and personal injuries to employees are greatly reduced.

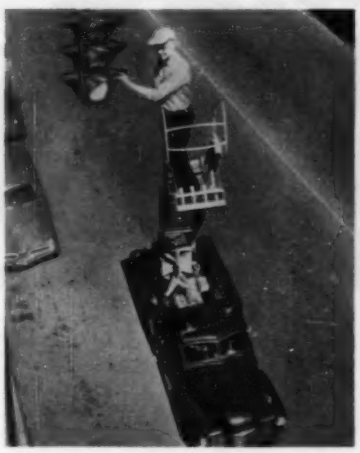
Our Traffic Signal Lamps Are Super

ABOUT six years ago, the City of Aberdeen adopted a policy of lamp replacements in traffic signals that has paid off handsomely in dollars and cents. The objectives of the policy were to assure (1) adequate amount of light in the signals; (2) proper direction of this light; (3) minimum burn-outs in service, and (4) greater traffic safety.

The specifications established by the Institute of Traffic Engineers were invaluable in helping achieve the first two goals. Periodic replacement was the answer to the third. But that solution posed problems of its own. With the high cost of labor (we use a two-man crew on our trucks) too-frequent replacement would put too heavy a burden on the budget. As any traffic engineer knows, the cost of replacement far exceeds the cost of the lamps installed.

We found all the answers needed to implement our policy wrapped up in a special traffic signal lamp manufactured by the Duro-Test Corporation of North Bergen, N. J. We have installed this lamp in all our traffic signals, and replace them whenever lamp failure reaches 4% of the total. Our replacement periods average 12 to 13 months.

Since a large percentage of the lamps we replaced in the wholesale change-over still had many hours of burning life left, we turned them over to city departments which could use them in other areas (machine shops, garages, etc.) where burn-outs are less hazardous and where replacements are much less costly.



Aberdeen's city electrician, Ralph Hatch, inspects a traffic signal that has been equipped with new Super-V-Beam traffic lamp. He is on a Hall ladder made by American Truck and Equipment Co. of Portland, Ore.

Recently Duro-Test introduced an even longer burning traffic lamp—Super V-Beam—of rated life, for the 67-watt size, of 8,000 hours. This should stretch our present replacement schedule by 3 to 4 months. We have already begun using these new 8,000-hour lamps.

RALPH HATCH, *City Electrician*
Aberdeen, Wash.

Put Transit On Freeways

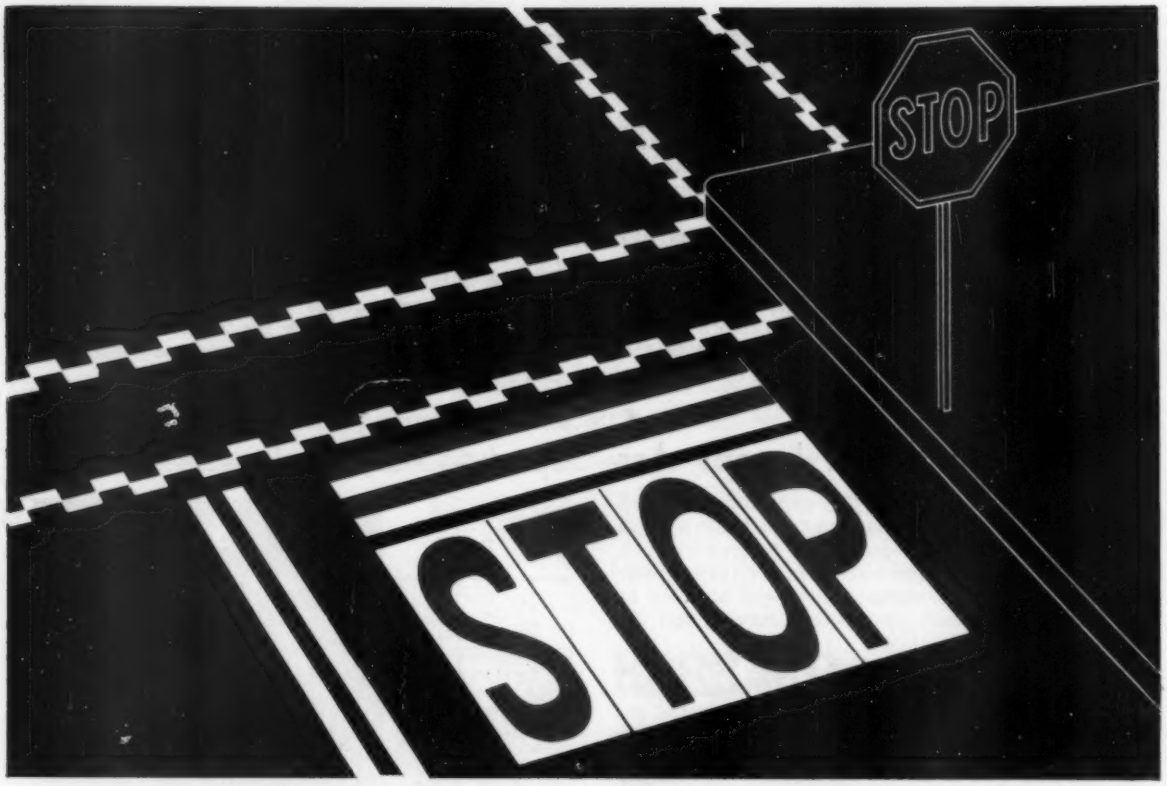
STUDIES often assume that a good public transit system will supplement the highway network—simply because it is agreed that transit is needed. It is frequently assumed, usually without substantiation, that transit will continue to attract approximately the same proportion of the total movement of people as it does now. Of the traffic destined to or from a typical central business district in rush hours, which is the critical design problem, transit passengers may represent 50% to 90% of the total. If we err in assuming that this ratio will remain unchanged, all estimates of vehicular traffic are false.

There are no strong forces at work, unfortunately, to perpetuate transit. Rather, the present drift will lead to the ultimate disappearance of transit from our cities. Many of the new regional shopping centers have no public transportation serving them. Perhaps by the year 2000 there will be no other kind of shopping center.

Transit companies are going out of business at the rate of about 100 per year. Ann Arbor, Mich., a city of 40,000 persons found only three people in a hundred riding the buses on an average weekday. In cities of that size, transit serves primarily those who are too old, too young, or otherwise unable to drive.

If this is the destiny of our cities, can our central business districts survive?

Construction of urban freeways is proceeding with precipitous speed, impelled by the federal billions made available under the Highway Act of 1956. Few city governments are endowed with enough corporate power or financial strength, unfortunately, to assure integra-



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Rigorous traffic tests in many cities throughout the country continue to prove that plastic is the longest lasting modern material for the heavy traffic conditions of today. These conclusive tests also show that NEFSLABS and NEFMATS are the finest plastic traffic marking products available. You are invited to enjoy their trouble-free performance.

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Why repaint traffic lines twice a year or more? Use extra long-life NEFSLABS and NEFMATS to save many costly repainting jobs through the years. The service of these tough plastic products is measured in **years,** not merely in weeks. Their permanency vastly reduces bothersome traffic bottlenecks . . . saves time, workmen, and scheduling headaches.

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TRAFFIC MARKINGS DIVISION

STOCKERTOWN 2, PENNSYLVANIA

In Canada: 465 ST. JOHN ST., SUITE 2B, MONTREAL, CANADA

tion in these highways of really adequate transit facilities.

The urban transportation problem, however, is as much physical as it is fiscal. It is often as hard to find space for highways in our cities as it is to pay for them. Each urban freeway thus must serve more people than ride in autos alone, or the reason for the freeway may cease to exist. In fifty years, our downtown-oriented freeways may be serving the holes in doughnut-shaped cities.

Relatively small sums, in comparison with the enormous state and federal funds now being spent for highways, would provide for integral transit operation on the urban freeways. Expenditures might cover only minimum development such as parking lots and bus stations in the outer portions of the presently urbanized area. Estimates of future transit traffic, however, might show the need for separate rights-of-way in the center mails for bus or rail operation. Transit operation of even the lowest order will increase manifoldly the capacity of each freeway to serve people who make use of it.

Freeways can sink or can save urban transit by serving public and private passenger transport equally well. The complete discussion of this subject can be obtained from the Urban Land Institute, 1200 18th St., N.W., Washington, D. C.

WILLIAM R. MCCONOCHIE
De Leuw, Cather & Company
Consulting Engineers
Chicago, Ill.

Springfield, Mo., Parkettes

SHORTAGE of personnel had weakened the policing of parking meters, loading zones, and no parking zones in the Central and North Side business districts of Springfield, Mo. H. DeNoble, director of Planning and Traffic, suggested to the City Council that using women for parking meter patrol was effective, as he had proved in Lubbock, Texas.

Patroling the parking meters is a 6-day a week job and, under the present setup, there are 6 officers to patrol the city's 1,700 Dual parking meters. The schedule set up for the officers was five officers to be on each day with one officer off each day, with a rotating system whereby an officer off on Monday of one week would be off on Tuesday of the next week. Every fifth week each officer would have Saturday, Sunday and Monday. This system gives an officer more time to spend with her family—and all the officers are married and have children. Many women like this work for the extra money it brings and the opportunity to be busy.

A Few Traffic Facts From Philadelphia

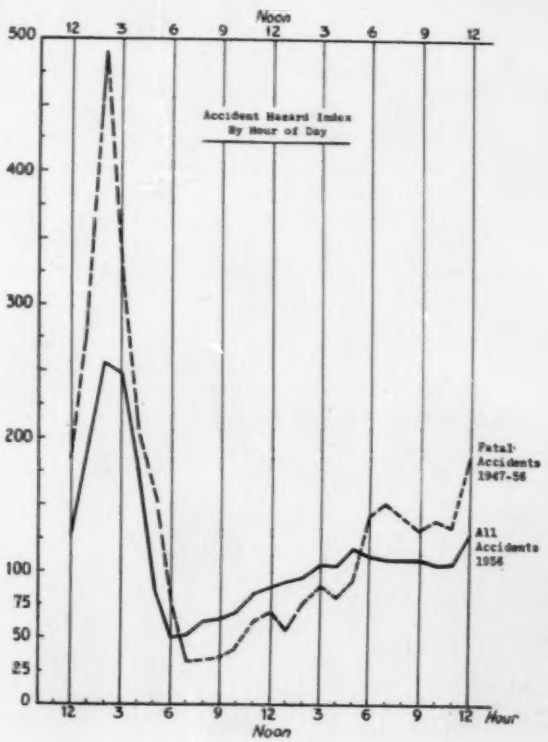
TRAFFIC accidents continued to exact a huge toll throughout the City of Philadelphia, Pa., in 1956, according to a delayed report just issued. Vehicle accidents on the streets accounted for 182 deaths and 13,477 persons injured in 33,038 motor vehicle accidents.

Of the 182 fatalities 120 were pedestrians (66%), 61 were drivers or occupants of motor vehicles, and one (1) was a bicyclist. Forty-one of the 120 pedestrians were killed when attempting to cross streets between intersections, frequently from behind parked vehicles. However, 59 lost their lives while crossing at intersections, and 30 of them at signalized intersections. Parents and schools must make an all-out effort to train children to cross streets safely.

Accident-Prevention Activities

The Bureau of Traffic Engineering expanded its use of traffic control devices, warning and regulatory signs and surface markings. During 1956 traffic signals were newly installed at 51 intersections, and existing controls were revised at 74 locations. Progressive signal timing was installed on five routes. Traffic-actuated controls for traffic signals were installed at 101 intersections to reduce traffic delays. Red stop signs were erected at 426 additional locations. During 1956, the Police Department issued 740,241 summonses for traffic violations. Of these summonses, 201,720 were for moving violations, nearly three times as many as in 1955.

STEPHEN E. BUTTERFIELD
City Traffic Engineer
Philadelphia, Pa.



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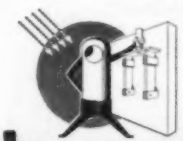
Throughout the United States, Fisher-Pierce units have provided more hours of dependable street light control than any other make of photoelectric control. For more than twelve years Fisher-Pierce has set the pace in the development and manufacture of photoelectric controls for all types of outdoor lighting.

Today Fisher-Pierce, backed by an organization of 600 people, offers unlimited facilities for the development of new controls and allied products for the electric utility industry . . . as well as the extensive service organization that stands behind each F-P control. Whether your requirements call for proven lighting controls for any type of outdoor lighting, development of new electric or electronic products, or engineering service in the installation and maintenance of lighting control systems . . . call on Fisher-Pierce.



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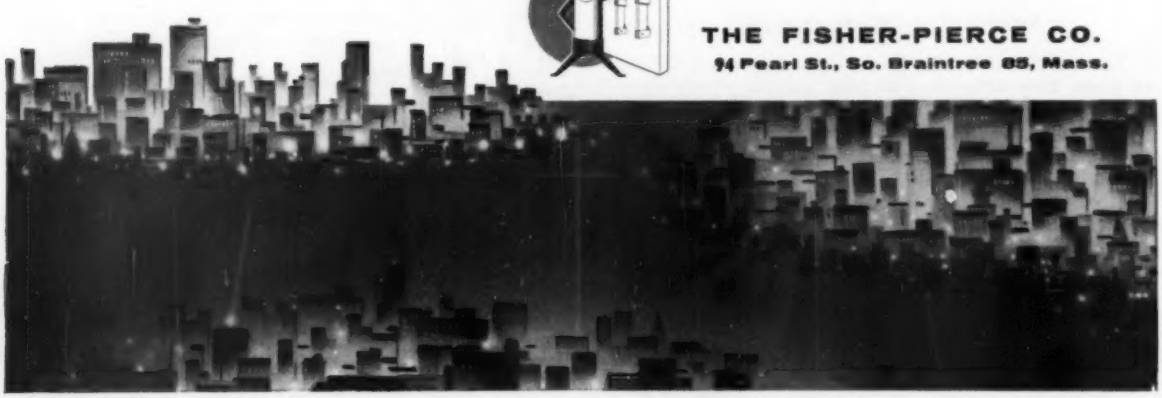
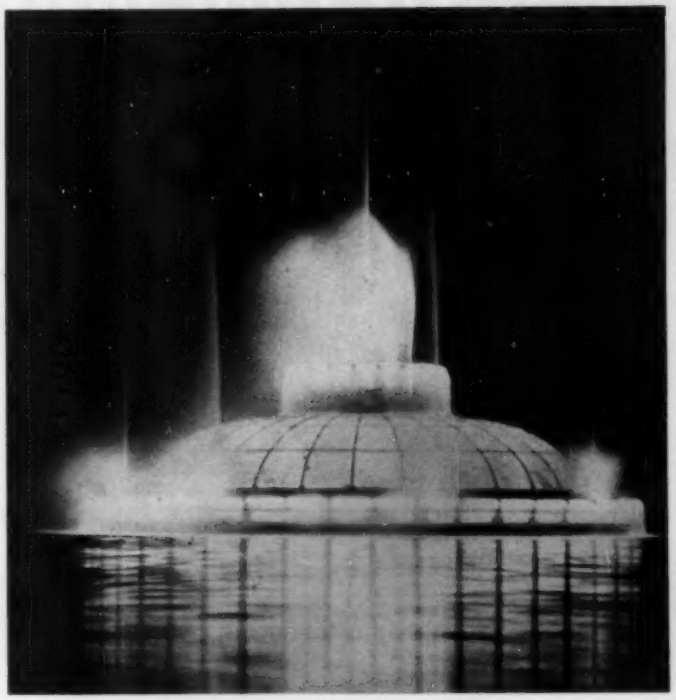


By ROBERT S. CARR
Mayor
Orlando, Fla.

Located downtown in Lake Eola the fountain rises 18 feet with seven subfountains around it—all illumined by incandescents and fluorescents in a sequence lasting 18 minutes



Orlando's fountain, first illuminated on October 5, 1957.

City Fountain Makes a Splash in Orlando

LONDON has its famed Trafalgar Square fountains, Rome its Foutana delle Najadi—Orlando, Fla., its Centennial Fountain in the center of a lake. The giant illuminated fountain, designed especially for our city, was dedicated October 5, 1957 as a climax to our city's 100th anniversary.

Florida municipalities, perhaps more so than other cities in the United States, are concerned with tourism. Some 50,000 vacationists visit our city annually and a year-round program of activities is sponsored by the Chamber of Commerce to induce these visitors to come and stay longer.

To Orlando, tourism is a measurable factor in the cash registers of our merchants. The Orlando Centennial Fountain can now be added to the list of city attractions.

Idea

The idea for the fountain originated more than two years ago when four business and civic leaders attended a national convention in Washington, D. C. The Shoreham Hotel's 50-foot illuminated spouts of water turned the conversation of Orlando delegates toward fountains and, inevitably, an Orlando Fountain was suggested.

On returning to Orlando the group checked with the Orlando Utilities Commission manager, Curt Stanton, on the feasibility of such a project. The idea was practical . . . plenty of power for the required lighting and pumping, and plenty of water were available. There are more than 30 lakes within the city limits.

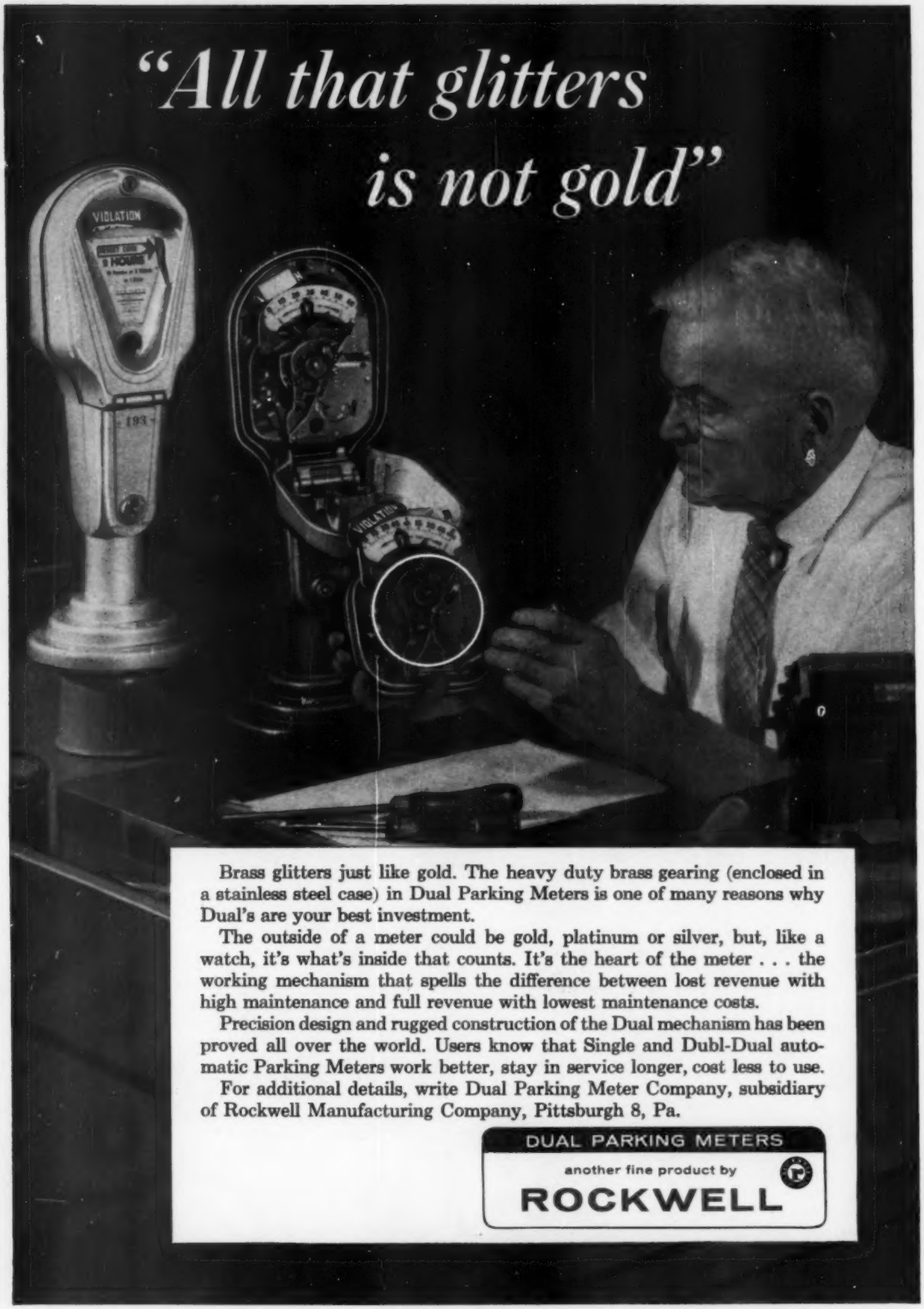
Shortly thereafter, a resolution containing the full details on the need and advantages of such a fountain was adopted unanimously at a special meeting of the Board of Directors of the Orlando Chamber of Commerce. This was then presented to the Orlando Utilities Commission and received favorable action.

Planning

The decision to locate the new fountain in the center of Lake Eola in the heart of the downtown area, solved many problems: (1) a readily available and unlimited water supply, (2) the distance of the fountain from the shore would reduce the possibility of spray being blown into the faces of passing pedestrians and motorists, (3) the view from both the shoreline and from the air would be greatly enhanced, and (4) the park was municipally owned and immediately available.

From the very beginning, city and civic officials insisted on a fountain which would be unique in design and which would rank as "one of the most impressive in the nation."

Because of the distance from the shore, it became apparent that the size of the fountain would be very important. It would have to be in proportion to the



Brass glitters just like gold. The heavy duty brass gearing (enclosed in a stainless steel case) in Dual Parking Meters is one of many reasons why Dual's are your best investment.

The outside of a meter could be gold, platinum or silver, but, like a watch, it's what's inside that counts. It's the heart of the meter . . . the working mechanism that spells the difference between lost revenue with high maintenance and full revenue with lowest maintenance costs.

Precision design and rugged construction of the Dual mechanism has been proved all over the world. Users know that Single and Dubl-Dual automatic Parking Meters work better, stay in service longer, cost less to use.

For additional details, write Dual Parking Meter Company, subsidiary of Rockwell Manufacturing Company, Pittsburgh 8, Pa.

DUAL PARKING METERS
another fine product by
ROCKWELL

distance from which it would be viewed, about 375 feet from shore.

William C. Pauley, Atlanta landscape architect, designed it. Utilities Commission engineers, Black and Associates, approved plans which were advertised for bids during the summer of 1956. In the latter part of 1956, actual construction was begun by the Peninsular Construction Co.

Problems

Two major construction difficulties appeared immediately. The site was found to be directly over a muck-pit at the deepest point of the lake. As a result of test drillings, the location of the fountain was moved 200 feet east of the site originally chosen.

Permanent pilings for the huge fountain caused another delay. A dragline mounted on a barge in the lake tried to hoist one of the 28 precast concrete pilings onto the barge. The weight of the piling nearly toppled the dragline into the water.

The contractor then decided to pour the pilings at the fountain site. Twenty-eight 60-foot long steel cylinders were driven into the lake bottom and then filled with concrete. The 320 tons of concrete beams were placed on top of the pilings to form the fountain's superstructure.

By early summer of 1957 the concrete structure was ready for Orlando Utilities Commission technicians to install the three miles of wiring and unique lighting facilities supplied by the General Electric Co.

Sixty feet in diameter, the project rises 18 feet above the lake.

Seven fountains were evenly spaced around the lower basin featuring a plexiglass rim with concealed lights. A blue-green plexiglass dome, lighted from the inside, was extended to the upper basin which contains the main nozzles for fountain display.

Lighting for the fountain includes both incandescent underwater floodlights and fluorescent lights operating under the basin rims and within the plexiglass dome.

Sixty-four large underwater floodlights—red, blue, and amber—are wired to show separate solid colors which gradually blend to all colors of the rainbow. The complete lighting sequence runs 18 minutes with a power output of 60,500 watts.

Water effects provide for a continuing change of jets and sprays with additional water added to flow over the rims of the basins—a six-minute water sequence utilizing 2,900 gallons of water per minute.

The changing colors combined with water effects, the two independent lighting systems, the location of the fountain in Lake Eola surrounded by scenic, tropical trees and flowers lead Orlandoans to agree with the engineers and builders that it is unique and impressive.

From the air it can be seen for 10 miles, clean and beautiful.

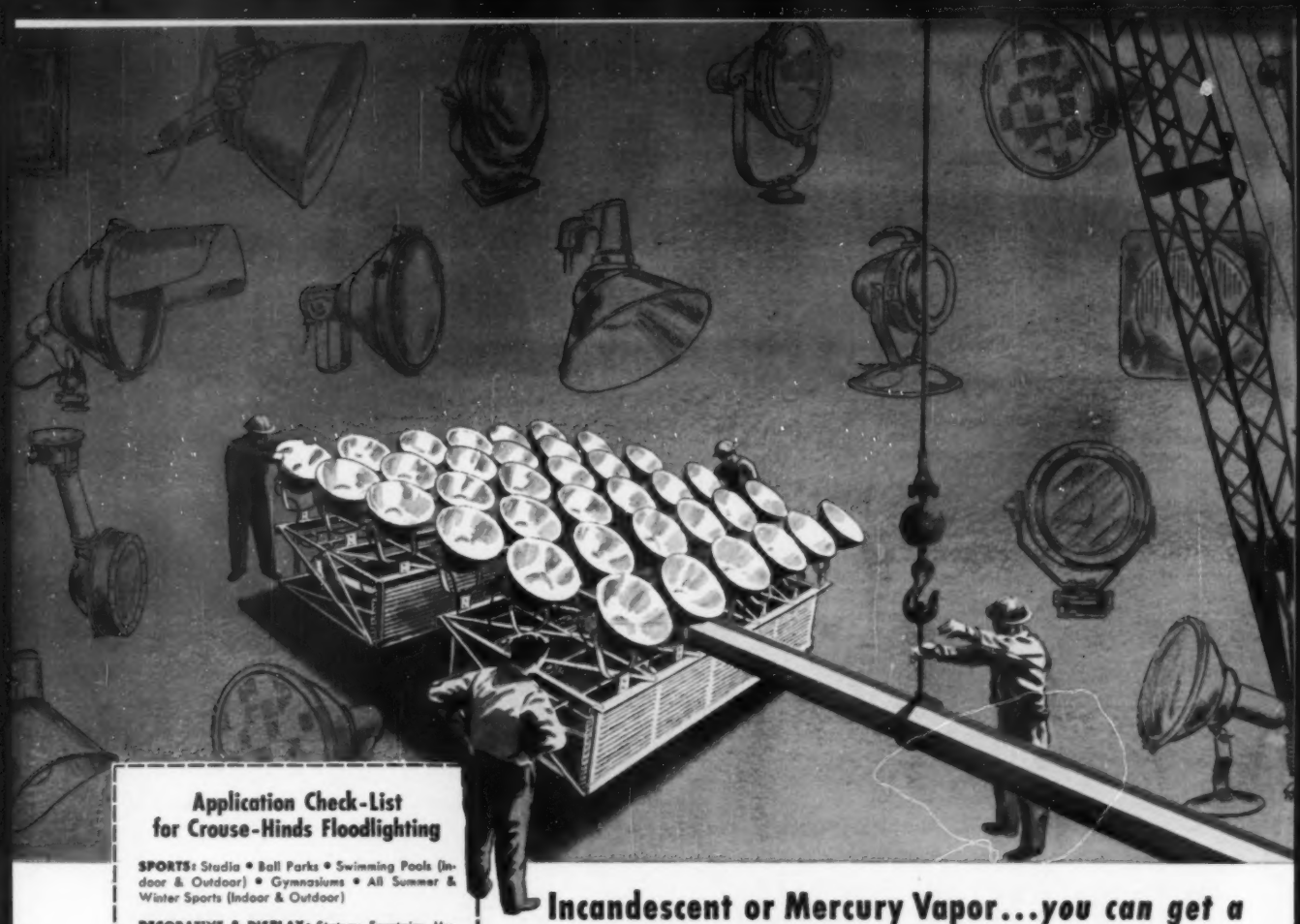
Relamping Simple and Accurate in San Diego

By LESTER J. TANK
Junior Electrical Engineer
San Diego Gas & Electric Company
San Diego, Calif.

THE relamper has taken the place of the once familiar lamp-lighter, who could carry his route schedules in his head. Today's lamp changer may have 5,000 lamps to think about, and by the time he has finished his rounds there will likely have been 200 or 300 new street lights installed since his last call.

Work like this can use modern record-keeping methods. San Diego Gas & Electric Co., has installed a

The author prepares a lamp-changing schedule by referring to the calculator which he devised. The outer ring is scaled in hours of darkness so as to indicate how many days in any part of the year a lamp may be kept in service before a change will be required. By consulting the schedule, Mr. Tank can determine when a particular route is to be covered. The listing of all lamps on a route, by geographical sequence, is contained in the compact Remington Rand Speedac file, which eliminated the one weak link in the San Diego Gas & Electric routing system.



Application Check-List for Crouse-Hinds Floodlighting

SPORTS: Stadia • Ball Parks • Swimming Pools (Indoor & Outdoor) • Gymnasiums • All Summer & Winter Sports (Indoor & Outdoor)

DECORATIVE & DISPLAY: Statues, Fountains, Memorials & Monuments • Public Gardens • Building Fronts & Entrances • Park, Playground & Cemetery Entrances & Interiors

BUSINESS: Shopping Areas • Drive-Ins, Outdoor Theaters • Building Fronts & Entrances • Recreation Parks • Gas Stations

AIRPORT: Ramps • Boarding & Loading • Street & Road Approaches to Airport • Markers & Beacons • Emergency Portables

CONSTRUCTION: Roads & Streets • Dams, Seaways & Piers • Detours • Buildings • Reconstruction of Disaster Areas

INDUSTRIAL AND UTILITY: Parking Areas • Freight Yards • Weigh Stations • Docks & Piers • Staging Areas • Production Work Areas

TRAFFIC: Tunnels • Viaducts • Bridges • Underpasses • Walks • Public Squares, Thruway Interchanges & Rest Areas • Cloverleafs • Parking Areas

UNDERWATER: Swimming Pools (Indoor & Outdoor) • Marine Life Displays • Municipal Garden Pools • Aquariums • Divers' Portable Units

HAZARDOUS: Explosion-Proof Lighting for: Petroleum Refineries • Chemical Plants • Explosive Plants • Service Stations

SPECIAL PURPOSE: Plant Protection (Floodlighting for Safety) • Estate Lighting • Portable Floodlighting for Parades, Bandstands, etc.

Incandescent or Mercury Vapor...*you can get a*

CROUSE-HINDS Floodlight ...for every possible application

Name your floodlighting need – for construction, emergency, utility, traffic, display, decoration, sports, underwater, or hazardous-area use. Crouse-Hinds can supply floodlights *designed specifically for each application.*

A quick scanning of the widely varied applications included in the Check-List at left proves again that floodlights often provide *better light from few source points at less cost* than conventional lighting.

For the broadest experience and skill in every conceivable situation where floodlighting may be of use . . . call on Crouse-Hinds. Our field engineers will gladly assist with your planning. Just call your Crouse-Hinds distributor, or the nearest sales office or representative listed below.

Send us a brief description of your lighting problem, or an indication of the floodlight types in which you are interested. We will send literature containing product information applying to your problem by return mail.

A NATIONWIDE DISTRIBUTION exclusively through ELECTRICAL DISTRIBUTORS

CROUSE-HINDS COMPANY

Main Office and Factory: Syracuse, N. Y.
Crouse-Hinds Company of Canada, Ltd., Toronto, Ont.

Offices: Baton Rouge Birmingham Boston Buffalo Chicago Cincinnati Cleveland Corpus-Christi Dallas Denver Detroit Houston Indianapolis Kansas City Los Angeles Milwaukee New Orleans New York Philadelphia Pittsburgh Portland, Ore. Salt Lake City St. Louis St. Paul San Francisco Seattle Tulsa Washington RESIDENT REPRESENTATIVES: Albany Atlanta Baltimore Charlotte Chattanooga Jacksonville Reading, Pa. Richmond, Va. Shreveport

Remington-Rand Speedac indexing system.

Speedac is a compact metal box fitted with removable transparent pockets which are open at the sides for insertion of Chaindex strips. These narrow inserts carry one line of typing. Marginal slots permit the strips to be linked together to form a chain or ladder, which attaches to a card for fitting into the pocket.

Each side of a pocket holds up to 13 inserts. The exposed acetate tips of the pockets are used for indexing the contents of each pocket. Each unit accommodates a maximum of 1,020 inserts.

For routing purposes, the area served by San Diego Gas & Electric Co., has been divided into 16 zones. Fourteen of these are serviced out of the head office, two out of the northern division office in Oceanside, Calif. Zones vary in numbers of lights from about 200 to more than 1,200. For most routes, a one-file unit is more than sufficient; however, two routes, which are over 1,000, require two each.

Each individual insert or strip bears the locale designation, type of fixture, and size of lamp and ratings. The lamp-changing crew take with it the appropriate file. The listing is in routing order so that the crew simply follows the index.

The census of lamps maintained by the company stands over 10,000 units. Included in this are some mercury-vapor lamps with 6,000-hour rating, but most of the lamps are of the 3,000-hour variety. Change-outs have been set at 2,400 hours, which have been shown through cost studies to be the most economical intervals.

New Calculator Sets Schedule

Inasmuch as a single crew handles virtually all bulb changes in the San Diego area, zones are worked in rotation. Schedules are established by reference to a computing scale, which gives the predicted life for any part of the year.

The calculator which we designed and built, consists of a fixed circular scale on which every day of the year is represented by a segment of a width determined by the number of hours of darkness for that day. Thus the segment representing July 1 is much narrower than the segment for a short day such as December 1. Superimposed on this is a movable circular scale marked off by equal increments of hours. In this latitude there are 4,032 hours of darkness per year.

Using this calculator we set up a schedule for each zone in the system, showing dates when change-outs should begin. One single crew averaging 110 to 120 changes daily makes the rounds on a comfortable schedule, in the San Diego area.

Eliminated Weak Link

Previously, we used pocket notebooks in which we entered location and type of unit to be installed. These were in geographical sequence, as now, but to allow for additions, we left one space between listings. The back of each page was left blank also.

This method became unsatisfactory as the routes grew. With 500 to 900 fixtures added or replaced with different types every year, the notebooks were in a constant state of revision. Entries were made in longhand, and frequent alterations and handlings made them difficult to read. Some books were filled up in short order. Making out a new one was a tedious job, requiring a complete transcription of the information from the old to the new, as well as the insertion of additional entries. It left us wide open for error.

With the old system, it was always possible that a single installation of a lamp of a certain type in an area where all others were of a different type, would be overlooked by the person who made up the new route sheet. A crew might be out on the job before the error was detected, and a special trip to obtain the proper placement might be necessitated.

Routing Now an "Endless Belt"

Now as each addition of a light is made, a new strip is typed, the chain is parted, and the new "link" inserted. When an entire pocket has been filled, and an additional entry inserted, the bottom strip can be detached and placed at the top of the next pocket.

Entire pockets can also be removed and placed in other files. Thus, when a complete file has been filled for one zone, room can be made for additional inserts by moving entire pockets to a second holder without removing the individual chains from the pockets themselves.

The conversion has been handled slowly, and every entry has been double-checked for accuracy. But once the complete job has been done it won't have to be repeated. The relatively smudgeproof inserts, protected by acetate pockets last indefinitely.

Detroit's High-Frequency Fluorescents

WITH the cooperation of the General Electric Company, the City of Detroit completed its first high-frequency street-lighting installation. There was not much specific information about the 360-cycle square wave frequency converter which we purchased, and so we recorded by means of oscilloscope photographs of the voltage wave shapes at various stages.

They demonstrate how only the positive voltage peaks of the input are used in conjunction with saturated core transformers in order to obtain a 180 cycle output. By essentially the same process, the peaks of the direct and inverted voltages are used to double the frequency. This now gives the desired frequency of 360 cycles per second, but the wave shape is roughly triangular. The square wave results in the final lighting circuit, consists of a special 6.6 ampere constant current network system.

Lamp current rises from zero to nearly peak value in an extremely short interval of time. This means that average lamp current is maintained at nearly peak value throughout the cycle, and accounts for much of the increased light output from this type of high-frequency power supply.

The equipment for this installation was purchased in the fall of 1956 with the purpose of obtaining data during cold weather. Some difficulty was experienced in getting a good square wave, however. Distorted outputs resulted before the correction was made.

Sphere tests on several lamps were made in order

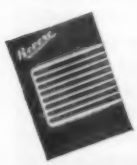
Denver's Washington Park tennis court is illuminated with Revere "4200" series floodlights and poles. One of eight such courts lighted by the city of Denver with Revere lighting equipment.

Revere planned city lighting

The best approach to adequate lighting of parks, airports, streets and other municipal areas is to plan ahead of your lighting needs. Revere *planned city lighting* can help you do this — and give you the most lighting, dollar for dollar.

Revere's advance-design floodlights, spotlights, mercury luminaires, poles, and other fixtures and fittings make up the industry's widest line of matched outdoor lighting equipment — all engineered to "fit" for top performance. By "getting it all" from one source, you are assured of well planned delivery schedules to meet your work order and completion deadlines.

A letter or call to Revere will bring a sales engineer to discuss your city's lighting needs.



Write for catalog covering Revere's complete line of matched outdoor lighting equipment

Revere Electric Mfg. Co., 6009 Broadway, Chicago 40, Ill. UPtown 8-7100

Available in Canada thru Curtis Lighting, Ltd., Leaside, Toronto, Ontario

OUTDOOR LIGHTING: Industrial • Commercial • Service Stations • Streets • Sports • Airports • Shopping Centers

Shown is part of the apron and dock lighting area of Chicago's busy Midway Airport. Revere poles and floodlighting do the job . . . just a few of the many Revere components available for all types of outdoor lighting.

to determine the increase in light output over normal 1-ampere, 60-cycle operation. The gains were 13 to 18% at a lamp current of 1.175 amperes provided by special series ballasts. The size of these ballasts point to another advantage of high-frequency fluorescent lighting in that they weigh ¼ as much as the standard rapid start ballasts.

The small increase in candlepower using the high-frequency supply led us to make light output and temperature tests which indicate that we can expect about a 10% increase in total lamp lumens during the summer months and perhaps as much as 20 to 23% during cold weather.

It is expected that our operating experience and data will contribute toward new and better designs for fluorescent street lighting.

HAROLD F. WALL
General Superintendent
Detroit Public Lighting Commission

Kept Their Porch Lights Burning

FOR many years, tourists driving through Fort Morgan, Colo., at night remembered it as the "City of Porch Lights." Ever since the electric department was organized in 1906, residents have kept their porch lights burning all night, compliments of the city administration. As each house in the city is wired, a porch light circuit is fused with a ½ amp fuse just ahead of the meter—at a minimum cost to the customer. Then porch lights—usually 40-watt bulbs, and anything above a 50-watt bulb will blow the fuse—are left burning all night.

The expense is charged off on the department's operating statement on the basis of number of homes at 50 watts each. According to City Clerk G. B. Morgan, the present $420 monthly tab which the city picks up provides not only good advertising, but also a supplementary street lighting program credited with being a crime deterrent.

How Bright Will a Street Get?

THE quality of street lighting has improved generally with the improvement in industrial lighting. Tops in industrial lighting is now 20 foot-candles plus. Tops in street lighting is now 5 foot-candles. There is talk, says General Electric's "Load", of 200 to 500 foot-candles by 1970. Will there be some business districts lighted to 20 foot-candles then?

Builder Lights New Development

A STREET lighting system, planned and installed as an integral part of the total development, is an unusual feature of a new subdivision in Oaklawn, Ill. The builders of this subdivision used the lighting system as a strong selling feature. The expressed approval of village officials and home purchasers alike attests to the success of the plan and the effectiveness of the lighting provided.

Safety, convenience, and added nighttime beauty were advantages prospective homeowners could observe and appreciate. They were able to see in advance that the street lighting would be good.

Pattern of Illumination

The lighting system, designed to illuminate intersections and midblock areas, blends with the scenery. The natural beauty of the area was maintained by using underground wiring, and the esthetic appearance of the equipment enhances the architecture of the homes.

Poles, luminaires, brackets blend with the scenery night and day.

To provide the light pattern and level of illumination desired for the development, the builder selected Line Material's "Suburbanaire," the new open refractor unit. This luminaire, which will accommodate incandescent or mercury vapor lamps, was considered desirable because it facilitates relamping and cleaning, and makes efficient use of the light source.

A total of 24 blocks were lighted with 36 2,500-lumen units and one 6,000-lumen unit. Standards, manufactured by The Union Metal Mfg. Co., are 25 feet long. Luminaires, supported by 8-foot upsweep brackets, are connected in multiple on six photoelectrically controlled circuits. Normal spacing of lights is 300 feet. The controls were made by Tabet Mfg. Co., Inc., 1338 Ballentine Blvd., Norfolk, Va.

Modern lighting for America's most famous Main Street

Business section of Sauk Centre, Minnesota

LIVELY AND BRIGHT is the business section of Sauk Centre, Minnesota. This typical American' town, made famous in the novel "Main Street" by Sinclair Lewis, chose Millerbernd "Elite' lighting standards for its renowned thorofare.

Here they needed a lighting standard that would be simple to install and to maintain, with the strength that only *cold-roll-formed*, high-strength steel could give. They *wanted* styling that would be distinctively modern so citizens and visitors alike would say "here is a progressive city".

The seventy-three "Elite" standards installed here will prove, *in the years to come*, as now, to have been a wise choice.

Our booklet OTA is filled with ideas to help you with *your* lighting project. Why not get your copy? Write: **Millerbernd Manufacturing Co., Winsted, Minnesota**

Millerbernd

*Elite**

LIGHTING STANDARDS

The City Tells Its Story

Municipal Public Relations

Edited by PAN DODD EIMON

Executive Director, Government Public Relations Association

TV looks big in MPR '58

San Francisco, Special to The American City

Philadelphia TV Official Tells Cities "How to Use Television" for Better PR

THE City of Philadelphia has had a 30-minute television program, "Tell It to The Mayor" on view for the past six years. And, according to Program Director John D. Scheuer, Jr., of WFIL-TV in Philadelphia, it may stay on another six or as long as "citizen response and audience appeal continue."

TV official Scheuer shared some of the "secrets of success" of the Philadelphia program with convention delegates at the Government Public Relations Association meeting in San Francisco early last month. Here's what he had to say:

Stations Are Interested

Every broadcasting station has an earnest desire to be of real service and to play a real part in the civic affairs of the community. Different stations reflect this basic desire in different ways.

Some stations are able to accomplish very little in this area because they find it impossible either to develop a dramatic and compelling idea within a program format—or they find the civic officials of their community unwilling or, in some cases, unable humanly and honestly to go before the public on television.

An Idea and a Goal

Back in 1952, Philadelphia was fortunate enough to have the two basic ingredients necessary to use television in the most effective way from a government public relations point of view: (1) *an idea;* (2) *a new city administration faced with the task of restoring public confidence in its municipal government and willing and able to work at it.*

The idea, like all good ideas, was as simple as apple pie. The mayor sits before the TV camera and answers questions telephoned to him while the program is on the air. It is frank and unrehearsed. No holds barred. The silly questions, the frivolous, the hostile—and even the crank—are answered along with the thought-provoking, sincere, and serious questions.

Mayor Dilworth can answer about 20 questions on the air. Hundreds come in. And every man, woman, and child who calls in gets an answer. Those the Mayor cannot handle on the program receive a personal letter—with an answer to their question—from the Mayor.

The basic ailment which this program seeks to overcome isn't the notion that "you can't fight city hall." In the past, you couldn't even *talk* to city hall. Any city with the same ailment is failing to fulfill an essential government responsibility.

Equally important is ingredient number two: a city administration wanting to restore public confidence in its municipal government and willing to work at it.

You Must Be Entertaining

City Administrators, usually, are not Jack Bennys, Wyatt Earps, or Frank Sinatras. Nevertheless, this sort of program ought to be entertaining. If it cannot compete successfully for an audience with the top network New York and Hollywood multithousand dollar program productions, the TV station cannot, by any stretch of the public service concept, justify putting it on the air even once.

Conversely, if this program is entertaining, it will not only get on the air, it will stay on, and in good time segments. Philadelphia's "Tell It to The Mayor" is carried in prime "A" night time.

What are the elements of success-

(Continued on page 151)

People Ask the Mayor

- "How long does it take to repair a caved-in street?"
- "Every time I pick up a paper, you're in Harrisburg. Are these trips necessary?"
- "The 1200 and 1300 block of South Hanson Street never gets cleaned. Why?"
- "Why can't they collect garbage at night so that children and animals can't scatter it? Other cities do."
- "Why don't you have the public buses put their exhaust pipes on top of the bus?"
- "Why didn't the policemen get the raise they asked for?"
- "Is Richardson Dilworth a property owner in Philadelphia?"

NEW!

AMERICAN Fastite® JOINT* CAST IRON PIPE

Now—another important AMERICAN development—a superior *double-sealing* gasket type joint—American Fastite! This new *field-tested* joint brings installation time and labor costs to new lows! The exclusive *double-sealing*, dual-density rubber gasket and the scientifically designed gasket recesses permit faster, more simple installation—allow liberal deflections—provide positive sealing under low or high pressures! Get full information about the American Fastite joint today—discover for yourself the advantages available only with American Fastite Joint* Cast Iron Pipe.

EXCLUSIVE DOUBLE-SEALING, DUAL-DENSITY RUBBER GASKET!

- Hard rubber end provides a strong shoulder for self-centering and locking—a permanent seal against cold flow under pressure, fully protected against deterioration.
- Softer large end for positive compression, liquid-tight sealing and easy assembly.

Tests prove either hard or soft rubber section **alone** provides a positive seal.

Ask your American Cast Iron Pipe Company representative about the unique advantages of this superior **double-sealing** single gasket joint—American Fastite—or write today for a free descriptive brochure.

**Patent applied for—Underwriters Laboratories, Inc. approved.*

AMERICAN CAST IRON PIPE CO.
BIRMINGHAM 2, ALABAMA

SALES OFFICES
New York City • Chicago
Kansas City • Minneapolis
Dallas • Denver • Orlando
Los Angeles • Pittsburgh
San Francisco • Cleveland

Milwaukee, Also, Finds TV "Best Way for Reaching People"

Your City Speaks is the name of the Milwaukee program which brings together station news director Bob Herzog and Milwaukee's public relations man, Municipal Librarian Gerald Caffrey on Saturday afternoons over WXIX-TV, CBS in Milwaukee. City officials take part.

Council on the Air in Milwaukee is another TV feature. News Director Bob Herzog (left) calls a shot for camerman Don Heilemann (right). The film is edited for use on 6 p.m. and 10 p.m. newscasts following the Tuesday afternoon council sessions.

(Continued from page 149)

ful entertainment in this instance? First, the frank and unrehearsed treatment of all questions. The result is not only information and service, but also spontaneous humor, righteous indignation, education—responses running the whole range of human behavior and emotions.

Needed: A Good Cast

Second, the characters. The public is part of the cast: names, addresses, and verbatim opinions and questions. In Philadelphia, studies show that—on the morning after every program—hundreds and hundreds of people say to their neighbors, "I heard your question on 'Tell It to The Mayor' last night." This is what Madison Avenue designates "product identification."

The cast of characters must also include a star, the Mayor. In Richardson Dilworth, the city has a star television performer. But, with all due respect to the mayor—and he'd be the first to agree with this—his early TV appearances wouldn't have won any "Emmy" awards. He expressed, from the beginning, a keen interest in learning how best to use the medium of television and to express his own honest—not a "phonied-up"—personality. And now he certainly is a real television "star."

For the show itself, all the fundamentals of television production—in which almost every station in the country is expert—went into the Philadelphia city program: lighting, staging, direction, pacing, "the works!"

Program Kept "Topical"

The City of Philadelphia has also kept busy on this program. From the original idea of "telling the mayor" came the thought of having city technicians in many fields join him in supporting roles. So, the mayor is able to cover the whole range of city government with complete assurance that he is not leaving a curious audience unsatisfied.

Although any and all questions are answered, many programs are geared to deal with specific questions which are current. For example, a flurry of holdups brings the police commissioner on with the mayor. And, at the beginning of the program, the audience is invited to direct its queries to the subject of law enforcement. At the start of summer, the recreation director is spotlighted. Racial friction finds the city's Director of Human Relations on the firing line.

In New Haven, Too

A little over a year ago, John Scheuer took this program idea to the television station which his company had recently purchased in New Haven, Conn. A similar show has been developed, too, in Lebanon, Pa.—a much smaller community.

Broadcast public service is a two-way street. The station must be willing not only to make time available, it must also provide creative thinking and technical know-how. *City government must do its part: honestly want to tell people about itself and work hard in a medium which is, too often and too casually, taken for granted.*

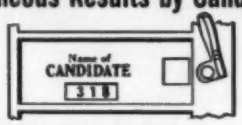
Resolve to check with your local television officials this year!

"Hold It . . . For the Next Litterbasket"

THIS 16-foot "Litterdropper" is one of a family of six, slightly comic, very human characters scheduled to appear during the next six months in New York City's five boroughs. These signs are part of this year's $1,250,000 clean-city advertising and publicity program set up by Sigurd S. Larmon, president of Young & Rubicam, Inc., and education chairman of The Citizens Committee to Keep New York City Clean. The agency handles advertising and publicity for the now 2-year-old campaign as a public service.

"Our Election Results were in and totalled 37 minutes after the polls closed."

- **Instantaneous Results by Candidate's Name!**



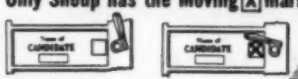
Total count appears on face of machine under name of each candidate and issue when machine is unlocked at close of polls.

- **No Decoding Necessary!**
- **Results Quickly and Permanently Documented!**

  For permanent record, photograph can be taken showing all final tabulations on face of machine.
- **Hours of Tabulating Time Saved!**

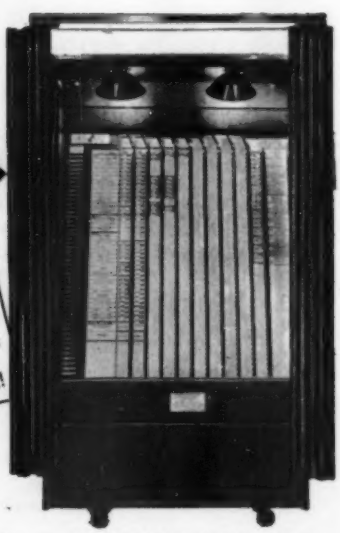
  Shoup "Exclusives" not only speed up voting; they enable you to consolidate precincts, reduce working staff's hours.

The Vertical-Type Ballot
(See photograph below)
Only Shoup has the Moving X mark



As voter indicates choice, the familiar "X" appears alongside candidate's name! The voter sees his vote . . . can't make an error!

...and yours can be, too, with the Shoup Voting Machine!



23 States Already Use Shoup . . . The Voting Machine That Looks Like A Ballot!

THE **Shoup** VOTING MACHINE CORPORATION

Write or wire for literature!

41 EAST 42 STREET • NEW YORK 17, N. Y.

An inspector reports into a portable dictating machine (right) the essential facts on needed street maintenance. An office worker (above) then transposes this information onto IBM punched cards to assure easy scheduling of work programs.

Electronics Set the Street Repair Program

San Diego insures that street crews work where the need is greatest by a new inspection-tabulation method

IN San Diego, Calif., Public Works Director Richard Gallagher lets electronic computers decide which streets need maintenance, and how much. His crews even use electronics to record the original street data.

The system started in 1953 when the Street Division of the Department of Public Works completed a physical inventory of the length, width, surface type, condition and roughness of all improved streets in the city. The roughness was measured by a "roughmeter" that records the variations from a smooth surface in inches per mile. This inventory information forms the basis of San Diego's street resurfacing program.

The department recorded the inventory on punched cards used in the city's existing International Business Machine accounting equipment. This permits sorting of the streets, in numerical and alphabetical order, by classification as Major, Feeder, and Residential streets. The department keeps these up to date by measuring all newly paved or annexed streets, punching cards for them, and running new listings as the volume of changes and additions requires. The city plans to recheck the roughness on all streets once every four or five years.

Director of Public Works Richard Gallagher has inventoried the particular area to which he is pointing. He plans to extend the work to the rest of the city.

The Way To Go About It

The department also has inventoried the physical characteristics of all unimproved streets and alleys, drains, bridges, guard rails and

"BANTAM is the best machine we've ever seen for sewer and water work"...

And this BANTAM is kept busy 8 hours a day, 5 and 6 days a week, trenching for sewer and water lines, backfilling, unloading water pipe, handling heavy valves and dozens of other chores. "We work the socks off our BANTAM. It is never idle," says Supervisor Crews. "We can take it anywhere."

Speeds operations 25-50%

Here's a typical day's operation: Drive 8-10 miles to first job; dig 200′ of 3′ ditch; then drive across town and dig 200′ more. Between jobs the BANTAM unloads pipe. It has unloaded approximately 100 trailer loads of 12″ and 16″ cast iron pipe in the last 4 months.

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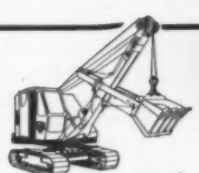

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fences, and has placed this data on IBM cards.

The city has divided its 155 square miles of widely varying topography into seven maintenance districts, and has subdivided these into approximately 55 "areas," each of which encompasses one or more census tracts.

The next step was to develop an equally impartial and automatic method of maintenance programming. To do this, the department established an inspection system that permits recording the deficiency needs on IBM punched cards. Inspectors record these by district, area and block side number, to the nearest quarter of a block, noting the number of the cost account which is descriptive of the type of work to be done, and the number of work units required.

Using this method, Mr. Gallagher can get an impartial listing that shows, by cost account, each location where work needs to be done, the amount of work needed at that location, and the total number of work units required in the area. Furthermore, the IBM machine lists the work in route sequence, minimizing travel time of crews between job location. This same information can be summarized for each district and for the entire city. The summary will permit him to calculate the total maintenance manpower and financial requirements needed per year for several years ahead, and to prepare more accurate annual budgets.

Originally, Mr. Gallagher planned to have the inspectors record maintenance needs in field books. However, the Street Division discovered, and is now using, portable, battery-powered dictating machines known as Dictets which greatly increase the amount of data that an inspector can gather per day and hence the distance he can cover. The field inspectors either telephone or note all items of an emergency nature, such as sidewalk defects. These emergency repairs are made by special two-man crews which follow behind each inspector.

The Street Division has been reporting maintenance work done (i.e., labor, materials and equipment charges) by districts and areas and street classifications since last May.

Mr. Gallagher is eager to see how the amount of money spent and the work done in each district and area compares with the amount of work needed in each district and area. He expects that analysis of these data will greatly assist in concentrating maintenance effort where it is needed the most.

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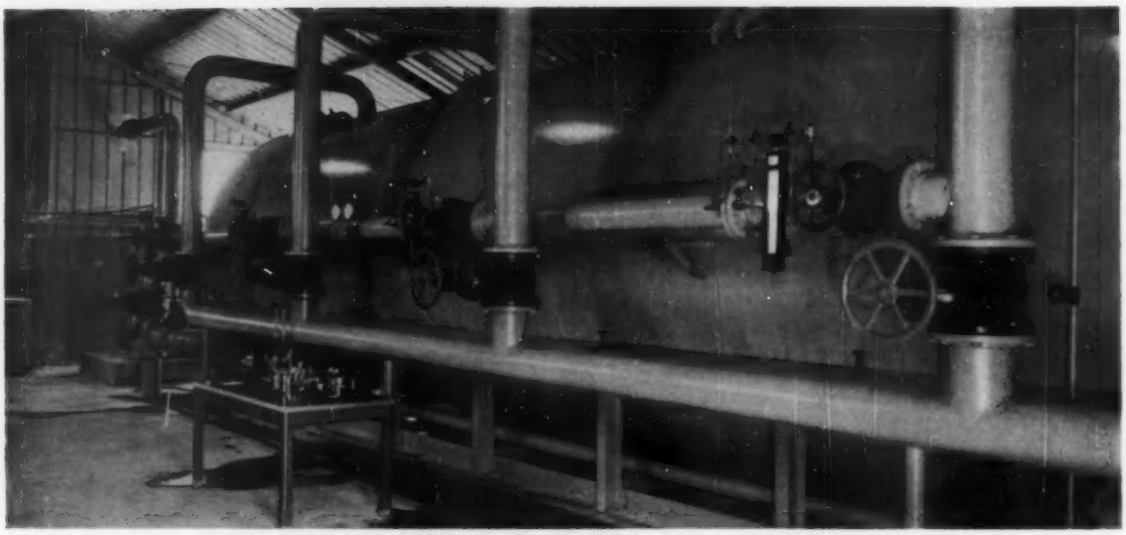
DECATUR, ILL.

Providing Quality Water



The multicell pressure filter provides the final polish to this hard-to-treat water.

ANY time a city has to use a water supply with 12½ ppm of iron, with a color of rusty nails, and with 70 ppm of free carbon dioxide, that city's water department generally has its hands full. But we have learned that even under these handicaps, you can produce a clear, sparkling water by using the proper treatment.

Lower Penns Neck Township is in southern New Jersey on the Delaware River. It has an area of 24 square miles; of this, about one-quarter is fully developed. Its center of governmental activities is the Town of Pennsville.

Public Supply Established

The Township has enjoyed fairly steady growth during the past 15 years, from 5,000 to 10,000 population. Prior to 1942, it had no public water supply at all. Each resident, business or industry had to drill an individual well. The results were that the easily obtainable well water was soon depleted.

Consequently, the Township established a public water system and distribution system. Fortunately, we were able to make use of 12 miles of water main installed previously as a WPA project. These mains conveyed untreated river water for fire protection purposes. The new Township system did not utilize a well, but purchased water from a nearby industry.

However, as the demand increased, the industry indicated that it was not in the water supply business and was uninterested in enlarging its water supply to meet our needs. Consequently, the Township proceeded to install its own well and elevated storage facilities. The well, like all of the others in the area, is a double-cased, under-reamed, gravel-wall type with cemented outside casing. It was installed by the rotary clay-seal process by the Layne-New York Company. This type of construction was necessary because the water has to be taken from unconsolidated sands and gravels above bedrock. The gravel wall around the well screen enables us to keep out the fine sands. However, the water here had a troublesome amount of iron, and required an iron-removal treatment. A Layne iron-removal system was installed to correct this condition. Governmental controls, in effect at that time, prevented the construction of more than just enough facilities for the existing needs. As a result we had to install another well in 1949.

Colloidal Iron

In 1954, conditions indicated that we again were going to run into water shortage troubles. So we drew on the services of John L. Reeves, consulting engineer, and started plans for a third well that we completed two years later. This also was a Layne well having a capacity of 1,000,000 gallons per day. In this one, the iron content was especially troublesome. It ran a fat 12½ ppm, and furthermore was colloidal in character. In a pilot-plant test, the iron consistently broke through the filter and into the finished water. The complete analysis of the water ran as follows:

	Parts per million
Total solids	112
Carbonate hardness	18
Noncarbonate hardness	
Chlorides	3½
Alkalinity	45
Carbon dioxide	70
Iron	12½
Manganese	¼
Turbidity	iron rust
pH	6.3

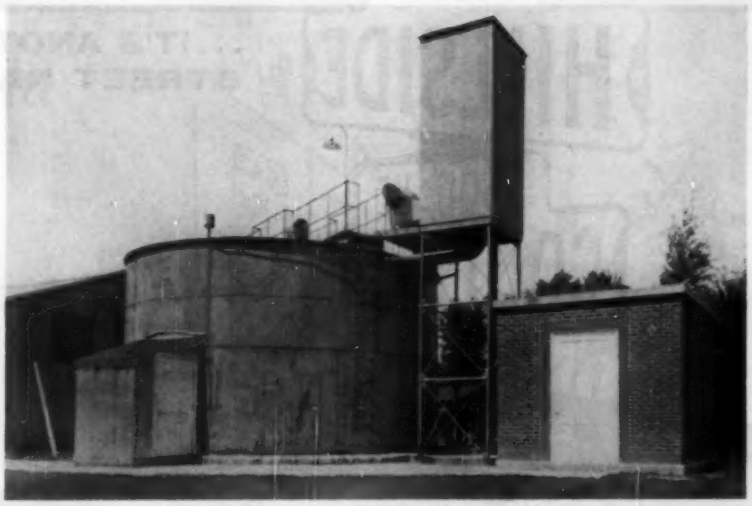
Upflow Treatment

Engineers with the Layne-New York Company who had the responsibility of providing a guaranteed quantity and quality, after further study, then placed an up-flow sludge-clarifier type of pilot plant on the site. With the addition of a coagulant, this clarifier preceded by aeration and followed by filtration, pro-

for a Growing Community

Lower Penns Neck, N. J., develops and transforms a troublesome water supply into a municipal asset

By WILLIAM W. CHEW
Superintendent
Lower Penns Neck Township
Water Department
Pennsville, N. J.



The upflow clarifier and aerator (located at left) take the water from the well (right) and correct an unpleasant condition by successfully ousting colloidal iron.

duced a beautiful finished water. After tests supervised by our consulting engineer, we determined that the plant easily meets the guarantee of a combined iron and manganese content of less than 0.3 ppm, a carbon dioxide content of less than 10 ppm, and a pH of above 7. The plant also removes most of the color and objectionable tastes and odors.

Iron Removal

To remove the iron, we now use a closed, forced-draft aerator to oxidize it and the manganese. We then send the water to a General Filter "Contraflo" unit which passes the water up through a suspended sludge blanket of the iron at an upward rising rate of 10 to 12 feet per hour. The tank is 26 feet in diameter and 15 feet deep.

The aerated incoming water enters the Contraflo tank near the bottom through an 8-inch inlet pipe, passing into a flocculating section with an agitator mechanism. It then overflows into the upflow portion where baffles quiet the turbulence of the water so that it does not disturb the sludge-blanket clarification.

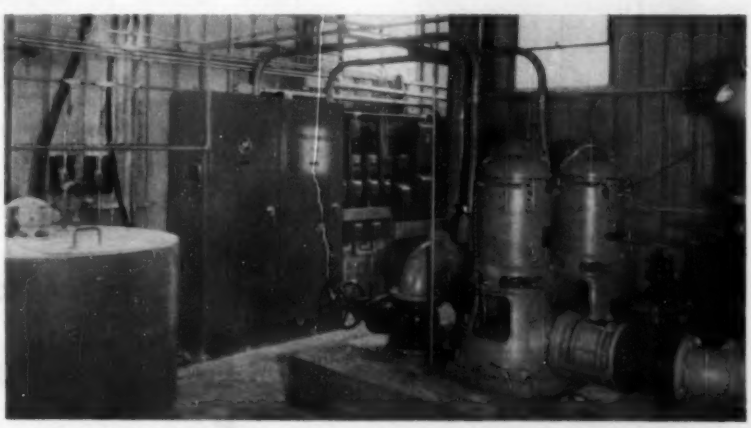
A mixing mechanism suspended from the top and driven by a 1-hp motor provides the preliminary agitation. The speed of the agitator can be varied from 1.2 to 3.0 feet per second. The clarified water passes over weirs through a 10-inch pipe to the filter.

The filter is of the pressure type, consisting of a tank 10 feet in diameter and 38 feet long, filtering at the rate of two gallons per square foot per minute. It is divided into four cells so that each can be washed separately without disrupting the operation of the remainder of the filter.

The new plant now brings our total available quantity to approximately 1,750,000 gallons daily. Meanwhile the distribution system has increased from approximately 12 miles in 1942 to 26 miles today. We get new customers at the rate of about 110 per year and now serve well over 2,000 separate services.

Bright Future

With this strengthened water system, we can expect the Township to continue growing at an even more solid and constructive pace. However, we recognize that problems will continue to plague the governing body in years to come. Nevertheless, we feel the water problem has been solved—at least for a few years.



A pair of Layne short-couple vertical turbine pumps installed in a reinforced well delivers water to the treatment works at the rate of 1,000,000 gallons per day.

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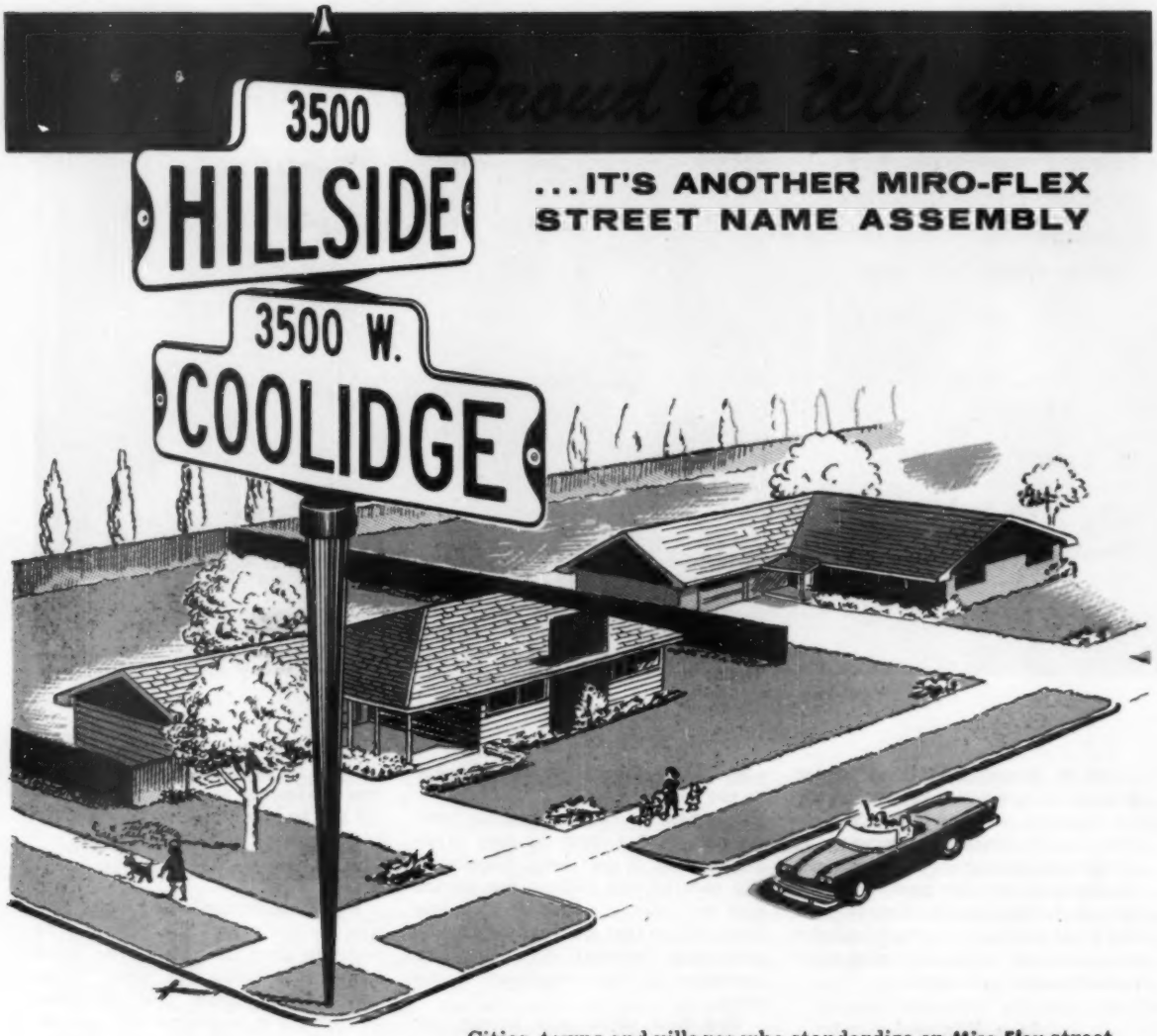

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Developing Public Support for Small City Renewal

PART II: Techniques

Here is the second installment of the story of the Dyersburg, Tenn., project for arousing public participation in urban renewal

By WILLIAM B. NIXON*

DYERSBURG, Tenn., has recently pioneered a basic study aimed at answering this crucial question facing all mayors, managers and other city officials concerned with urban renewal: how do you arouse the people of an average American community to undertake an urban renewal program? Six basic techniques were explored in a special study project financed jointly by the Dyersburg community, the Tennessee State Planning Commission and the Demonstration Program Branch of the Urban Renewal Administration in Washington. These techniques were aimed at providing the impetus for a civic transformation that would turn a local acceptance of slum conditions into an aroused public sentiment for real renewal action. These activities were:

1. Assisting city officials to develop confidence in the feasibility of a local urban renewal program
2. Public education about the purposes and procedures of urban renewal
3. Dissemination of information to local residents about Dyersburg's governmental policies, programs and achievements
4. Demonstrating community improvement needs in tangible terms to help local citizens understand the value of undertaking a renewal effort
5. Using citizen capabilities in launching such a program
6. Coordinating the efforts and programs of civic groups, city, state and federal agencies to make the most of the benefits to accrue from this community improvement endeavor.

City Officials Launch the Program

It was essential for local officials to understand the renewal process and be convinced of the local necessity for such a program before they could fulfill their leadership role in making urban renewal a success in Dyersburg. To help broaden their understanding of renewal techniques, the city's top officials diligently attended a series of state and regional conferences where renewal experiences and procedures were discussed. The discussions — both the formal ones from the podiums and the informal ones with officials from other

* Mr. Nixon was formerly Director of the Dyersburg Urban Renewal Demonstration Project. He is now with the Philadelphia Redevelopment Authority, Philadelphia, Pa.

cities—were helpful. But the best technique was to visit other cities where urban renewal programs were actually under way. The day Dyersburg officials spent with their counterparts in nearby Clarksville was perhaps the high point, for in this Tennessee city one could see just what was being accomplished and how it was being done. The officials returned home convinced that such a program was feasible.

Even after the local officials came to a fuller understanding of the scope and possibilities of urban renewal, it was felt important to keep this interest alive. This was done by conscious efforts to keep the Mayor, the Board of Aldermen, and the City Planning Commission abreast of the Dyersburg program. They were constantly consulted for advice in formulating direction for it.

Realize the Need for Change

Occasionally, residents need to take a fresh look at their community before they can grasp that physical and social changes are imperative for economic development and prosperity. In Dyersburg, years of racial segregation and poor living conditions for lower income groups had blurred a public realization of the need for change.

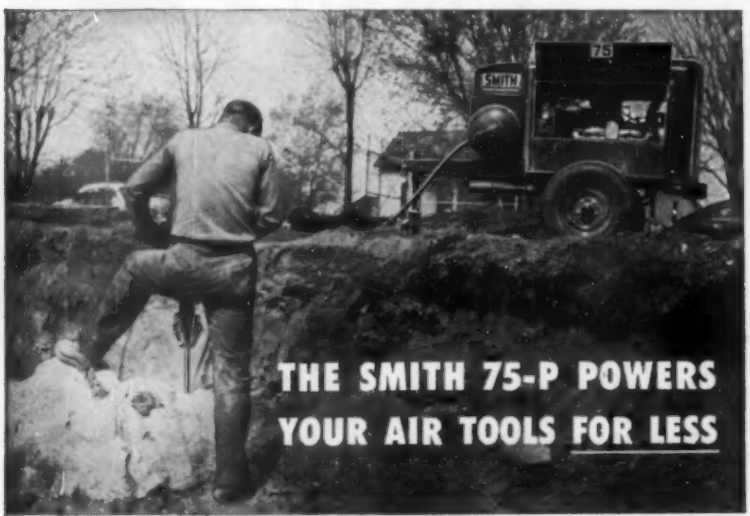
Middle and upper income groups were familiarized with living conditions in *all* parts of Dyersburg. This was done partially by publicizing a comprehensive survey of housing conditions throughout the whole town conducted by local students home from college during the 1956 summer vacation. As they worked from house to house collecting data, they helped to explain the urban renewal process and its objectives to individual householders. This often aroused an initial interest and sometimes a personal concern.

Next, we allowed the facts we had gathered, to tell a story that would reveal the ugly consequences of slums and stimulate a desire for action. Initially, a dramatic display at the 1956 County Fair in Dyersburg of these survey findings together with photographs of housing conditions made the problem more apparent. Presentations before civic and neighborhood groups tracing the history of blight as illustrated by neighborhood maps of housing conditions broadened understanding of how blight spreads. A special tour of the slums by two ministers who later reported their findings from the pulpit, helped develop greater awareness that such conditions should not be allowed to persist. Now more civic leaders took a look at where their servants and other working families lived and realized that such unsanitary conditions could affect their own health and welfare.

To dramatize the fact that slum problems were not peculiar to Dyersburg, a public presentation was staged of *Life*-ACTION'S personally narrated panorama, "Our Living Future." Prior to this an urban renewal "clinic" and mass meeting was held with speakers from federal agencies and other towns. In the news, thus gained, of the successes of other cities and towns and in their travels outside of town, people began to be aware of urban renewal programs in action and (we hoped) wonder what Dyersburg could do.

Confidence in City Government Is Essential

Citizens must have confidence that their local government will act to carry out an urban renewal program before there will be whole-hearted citizen support behind that program. At the outset of the Dyersburg effort many citizens felt the city hadn't progressed very far in community improvements since World War II. Such a feeling was based on what



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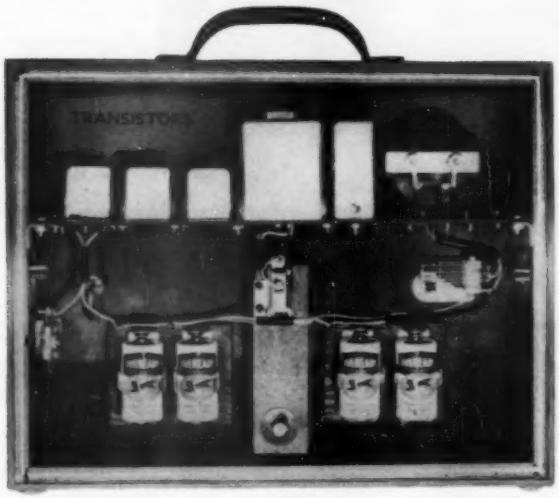

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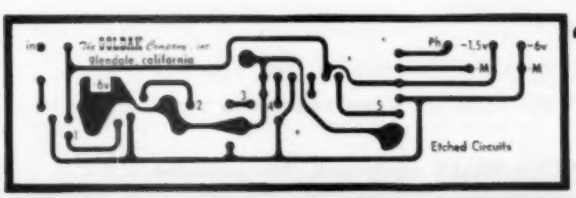

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could be interpreted as a widespread lack of citizen understanding as to what the city administration had achieved, its programs for future improvements, and the costs involved which dictated the speed at which improvements could be accomplished. As is the case in most communities there had been no systematic reporting on how the Dyersburg government functioned. At times the local newspaper did not print such information on its own initiative. The result was that most citizens lacked a proper perspective as to the town's advancement, and this reflected itself in a public disclination toward increasing the municipality's revenues.

This series of attitudes led to publicizing the workings of Dyersburg's municipal government. Some misunderstandings about local government policy, city planning and urban renewal were immediately clarified in talks before civic and church groups. To assure a continuity of contact between us as governmental representatives and the civic groups, each organization was asked to appoint a representative who would attend monthly informational meetings and then report back to his own organization about local government plans and activities which are officially discussed at these sessions. Summary written materials distributed at these meetings were reinforced by news releases covering local government decisions and activities, mass distribution of planning documents, and by an attractive annual report which outlined government operation, its accomplishments, and its plans.

Citizen Involvement Sparks Understanding

Another basis for the urban renewal movement was laid by getting all kinds of citizens involved in different ways. It was realized that their involvement would enhance understanding of urban renewal problems and promote a commitment to necessary procedures for meeting those problems.

Neighborhood improvement associations were organized with the staff's assistance: (a) to study neighborhood needs and plans for voluntary and public solutions; (b) to promote neighborhood social activities as well as programs of voluntary rehabilitation; and (c) to provide an organized basis for two-way communication with city officials.

Businessmen and bankers became more convinced of the need of a local urban renewal program as they worked on a special committee to obtain financial assistance for residential rehabilitation and to determine cost estimates for compliance with proposed housing code standards. Women's civic and garden clubs were asked by the Mayor to name representatives to serve on a City Beautiful Committee which would coordinate the individual efforts of these groups in working on a problem of common concern to them.

The formulation of a housing code was the most controversial part of the whole movement. It touched on the most deep-seated feelings of individual property rights. A special committee representing a diversity of interests, including slum property owners, spent a year in discussions, arguments and mutual education before proposing the code which now seems quite reasonable to them.

Civic groups kept themselves informed about the progress of this movement. They indicated their support to city officials at appropriate times and sponsored special projects, such as highway signs proclaiming Dyersburg's urban renewal program.

To launch a local urban renewal effort, this kind of program can be

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carried out in any small city on either a voluntary or salaried basis. But it needs a number of key personnel who have the requisite skills and the devotion to the ultimate objectives of the program. The sponsor of this movement could be a civic organization, such as the local chamber of commerce, or a city-wide citizens' housing or planning council. Otherwise, it could be carried out as a city function with a staff provided by either the mayor's office, the city planning commission or the local redevelopment agency.

A Continued Effort Will Be Needed

Regardless of the sponsorship, the approach involves a program to be continued for at least several years as it takes time and considerable effort to create citizen and official support for renewal. Dyersburg demonstrates what persistence against seeming adversities can accomplish. Today, the Dyersburg Housing Authority is continuing the program effectively.

Two Building Codes Add Chapter on Plastic Products

WITH the multiple uses of plastic incorporated in the building industry, basic provisions of the "Model Chapter on Plastics for Inclusion in a Building Code" have been adopted by the International Conference of Building Officials and the Southern Building Code Congress.

At the recent annual meeting of the ICOBO in San Francisco, members of that code-writing body voted to include the plastics recommendations as a chapter in the Uniform Building Code.

The scope covered in the new Chapter XXVI of the SBC covers the following plastics building applications: wall panels, glazing, roof panels, skylights, light-transmitting panels in monitors and sawtooth roofs, light-diffusing systems in ceilings, partitions, exterior veneers, awning and similar shelters, greenhouses, and signs, as well as outdoor displays.

Manufacturers of plastics may obtain approval of their products on an individual basis.

The model chapter on plastics was prepared jointly by the Manufacturing Chemists Association and The Society of the Plastic Industry, Inc., 250 Park Ave., New York 17, N. Y.

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State Supreme Court Building in Brooklyn, N. Y., Civic Center.

Electrical Innovations in a Big City Supreme Court

A MAJOR part of the new Brooklyn, N. Y., Civic Center, is the $15,785,370 Supreme Court Building, which should be ready by August 1958. The contractor is Castagna & Son, Manhasset, N. Y. The electrical contractor is John G. Hellman Co., Inc., 507 E. 76 St., New York, N. Y.

High Voltage System Economical

Some of the many modern electrical features incorporated in the building are a jurors' call system, an emergency lighting system, and a 3-phase, four-wire, 480-volt line-to-line and 277-volt line-to-neutral distribution system. Commissioner Frederick H. Zurmuhlen of the New York City Department of Public Works states, that "by incorporating the high voltage system we have effected substantial economies."

John G. Hellman Co., Inc., the electrical contractor, points to the main switchboard which utilizes Westinghouse drawout breakers. These breakers are mounted on a racking mechanism and can be easily disconnected from the bus and withdrawn from the switchboard structure. In installation alone, there is the advantage that the weight of the switchboard is reduced by 50% when the breakers are removed, making for easier installation. A spare breaker can be quickly inserted while the original is repaired.

There are two take-offs from the Consolidated Edison transformer vault. The two systems may be connected by the closing of a tie breaker in the switchboard. Should a short circuit knock out one side, this part of the building would not be without electricity, as the tie breaker would be closed, to supply most of the essential feeders.

An emergency lighting system supplies light outlets on the stairway, and all exit and elevator car lights. An automatic transfer switch transfers the electrical load to an emergency feeder until the normal feeder is returned to service. The switch then automatically returns to the position at which it is fed from its normal source.

Jurors' Call System

In each jury room vestibule, an Auth Electric call station has been installed. For a juror to summon an attendant, all he need do is press a call button (which is self-locking). This activates a lamp signal which remains lit above the door to the jury room, at the side of the corridor, and at the master annunciator. If the locking button is pressed to its extreme position, a buzzer sounds in the corridor. The call button causes a flashing of the corridor and annunciator lights whenever the buzzer is sounded.

Birdproofing System

An Electrepel bird-proofing system, similar to that on City Hall in Manhattan, has been installed. This covers the ledge above the north and south entrances. Experience with this system at Manhattan City Hall has shown it to be so effective that difficulties with pigeons are eliminated. Bare 18-gauge wire, insulated from the building, and a bare ground wire comprise the system. A pulse generator delivers a pulsating current through this wire, producing an unpleasant sensation to a bird that attempts to perch on the ledge. This system is a product of Electrepel, Inc., 50 Broad St., New York, N. Y., and is used on numerous city-owned buildings.

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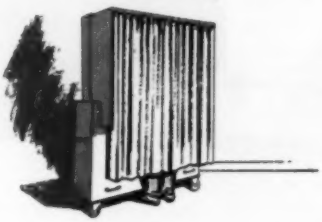

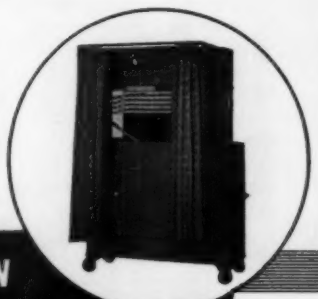

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In developing a park and playground system . . .

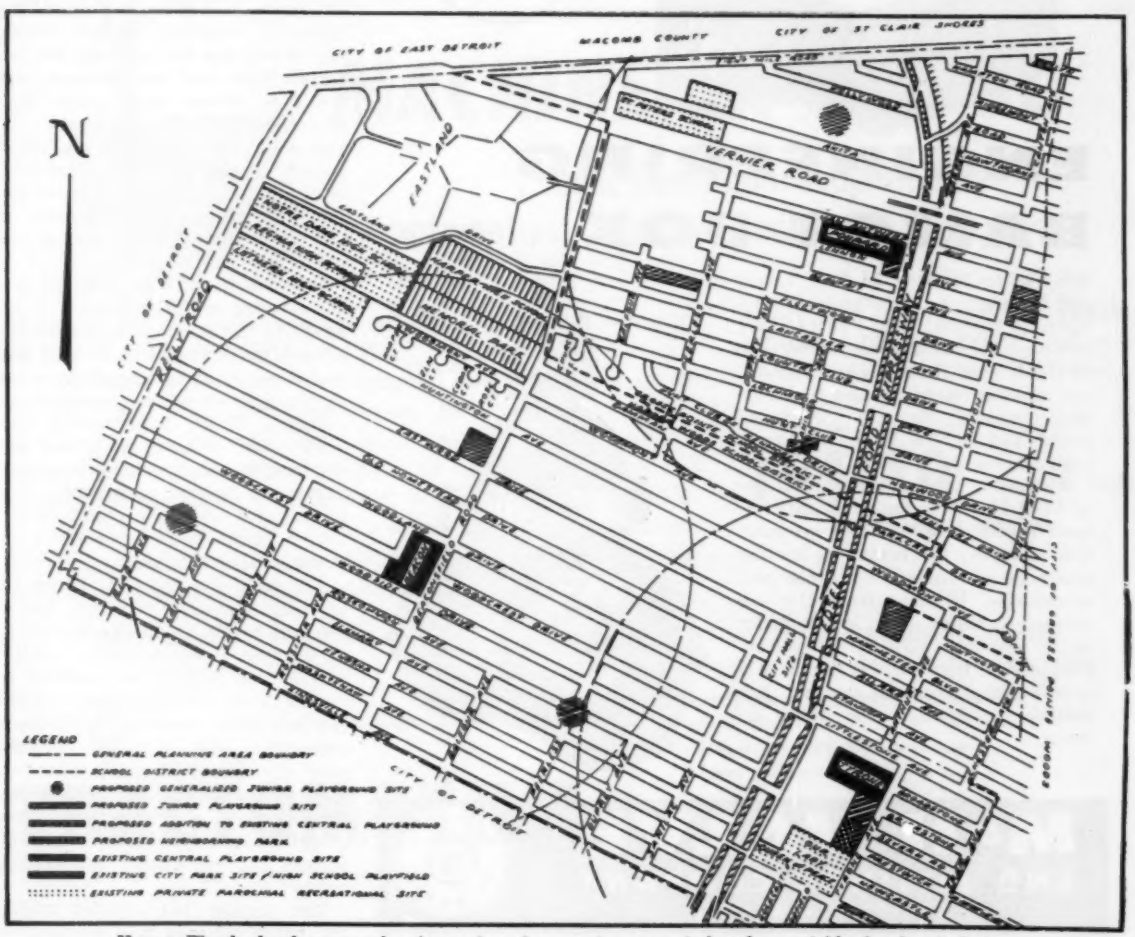
Put Your Recreation Plan to Work

By JOSEPH P. GROSSEL
Mayor
Harper Woods, Mich.

THE need for adequate recreational facilities is well recognized in Harper Woods, Mich. This fast-growing Detroit suburb of 20,000 persons is planning ahead for a comprehensive system of its own recreational areas. The need for city planning in this community of nearly three square miles has been recognized as important. From a township of fewer than 800 persons in 1940, this recently incorporated city has more than doubled its 1950 population of 9,148.

As the city has rapidly developed, the desirable vacant sites for recreational space became scarce. A good example of this recent trend was the construction of J. L. Hudson's giant Eastland Regional Shopping Center on over 125 acres of the city on a site proposed less than ten years ago for a major, county-supported park.

The basic necessity for public areas for active and passive recreation has been long realized by Harper Woods city officials as not being merely a luxury but rather an essential part of their city's social health. One of the primary responsibilities of the City Planning Commission was the preparation of a master plan for the future orderly growth of the city. With the assistance of Brandon M. Rogers, Detroit planning consultant, the commission in June 1956 completed and adopted, after public hearing, a study on the *Recreational Facilities* part of the master plan. Unanimously adopted by the Council, the plan outlined a comprehensive system of playgrounds, parks and other recreational uses for the ultimate, predicted population of 25,000 persons. The plan assumed that the remaining 10% of the city that is presently vacant would be developed within five to ten years in accordance with the



Harper Woods development plan for park and recreation areas is based on neighborhood unit design.

provisions of the zoning ordinance as modified by the land use plan.

First, the plan recognized that Harper Woods is essentially a community of low density, single-family homes. Consequently, it needed strategically located, efficient parks and playgrounds for young families. It did not need to duplicate the major recreational areas of the City of Detroit and the regional and state authorities that are within short driving distance.

Second, it recognized the large-size lots that were developed residentially when the community was semi-rural. These near-acre lots, located on long blocks, do offer considerable individual open space. However, supervised play areas and space for family outings are essential in these districts although planned at less frequent intervals.

Third, the city has a higher-than-average percentage of families who either now, or in the future will send their children to the city's numerous parochial schools. There was a need to relate the public recreational areas to these parochial areas to insure the best geographic locations. It is fortunate that most of the parochial recreational sites are presently open to, and are being fully used by the public at large in this interim period when the city is planning its own recreational system.

Fourth, there seemed logic in the idea to integrate the city's recreational areas with those of the school districts. The duplication of gymnasiums, locker rooms, auditoriums, etc., on the playfield site, or even the meeting rooms and rest room facilities at the central neighborhood playground sites, would have meant a waste of capital investments.

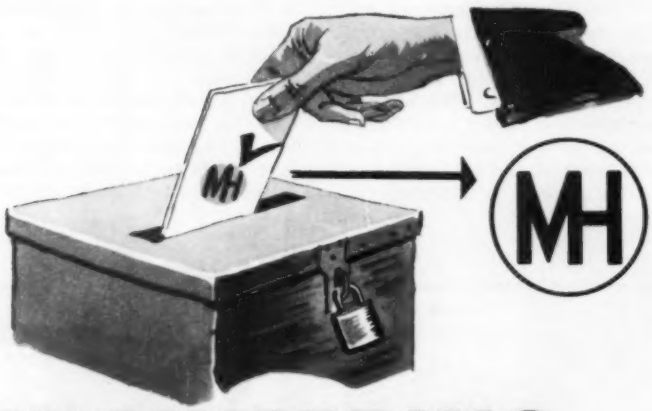
Neighborhood Units

Basically, the plan provides for a division of the entire city into three neighborhood units, each slightly less than one square mile in area. At the core of each neighborhood is presently located a public elementary school which, with its playground, serves as the basic neighborhood recreational, as well as educational, facility. In the outlying parts of the neighborhoods are located proposed smaller playgrounds more accessible for younger children. Culminating needs for children beyond elementary school age and adults is the major playfield and park located near the high school and junior high school site in the center of the city. The plan also considered the advisability of tot-lots within specific blocks and the need for a community center for teen-agers to augment indoor recreational facilities at the public schools.

In more detail, it is proposed that the existing central playgrounds adjacent to the sixth-grade elementary schools be expanded to at least five to 7 acres so as to adequately serve each neighborhood in a one-half-mile radius. These playgrounds, primarily for elementary school age children, would provide for organized games and sports, apparatus, space for cultural and quiet activities, ancillary functions like pre-school enclosures, shelters, etc.

Although the theoretical concept of neighborhoods wherein major, through traffic is on the periphery of the unit is commendable, such a concept has had to be modified to permit inclusion of all parts of the city in neighborhood units. Frequent pedestrian and vehicular bridges over the Edsel Ford Expressway, and synchronized traffic lights on lesser streets should integrate the neighborhoods the most feasibly around the elementary school-playground site.

The smaller playgrounds within the neighborhoods will supplement



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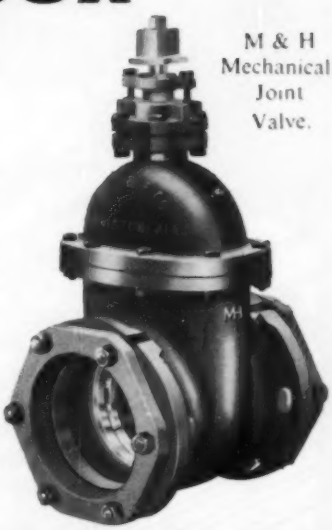

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In the opinion of J. Sanders Parker, Consulting Engineer, Clay Pipe is "the best that could be obtained for this service." Clay Pipe never wears out . . . does not rust, rot, or disintegrate . . . is the only pipe backed by a long-term written guarantee. And the new stronger, longer lengths speed installation . . . cut labor costs.

When investigating materials for sewer expansion, remember . . . substitute pipe may have *some* of the features of Clay Pipe, but only Clay Pipe has *all* the features you can trust.

Public Officials: David Parish, *Mayor;* A. O. Johnston, *Councilman, Chairman of Water and Sewers.*

Consulting Engineers: J. Sanders Parker; F. E. Stepp, *Resident Engineer.*

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the central playgrounds. Located to serve generally a quarter-mile radius, these sites of two to four acres are intended for children under 11 years of age. They would be within easy and safe walking distance of most homes, and not require the crossing of major streets. Development of such playgrounds would provide areas for supervised quiet games and facilities like slides, spray-pools, sandboxes, swings and jungle gyms. Also included would be landscaped areas for story-telling and benches for parents as well as small picnic areas for local families.

On a larger scale the plan proposes that the existing 18-acre playfield at the high school and junior high school site serve the entire city for the more intensive, competitive games and spectator sports. Being integrated with the adjacent City Memorial Park, this open area of over 31 acres will be jointly developed by the school district and the city to achieve maximum efficiency and flexibility. The playfield would serve children over 11 years of age and include facilities and areas for football, track, baseball, softball, tennis, etc. Since no home in the city would be further than one to one and one-half miles from this site, desirable accessibility is insured.

Older Residents

The existing major city park of 13 acres adjacent to the playfield is designed to satisfy the more passive recreational needs of the city's older residents. Although parts of the park can be used by children for activities when the playfield has peak demand, it is essentially designed for family outings and picnics, nature trails, and passive activities in a wooded and informal setting. The joint development of the park and playfield is illustrated by the inclusion in the part of a proposed swimming pool and artificial ice skating rink and the joint use of off-street parking facilities. In addition, another smaller park of up to four acres is proposed in the southeastern part of the city most distant from the major park so as to provide more convenient space for adults. Other features of the plan are the suggestion of tot-lots, or small areas under a quarter-acre in size, to be located within individual blocks for preschool children.

Current Program

Using the plan as a guide, City Manager Robert J. McNutt proposed the acquisition of two of the proposed junior playground sites, totaling 4.1 acres, at an estimated cost of $60,000. In each instance the site is vacant, surrounded by single-family homes.

Typical of the method of analyzing the merits of acquiring a specific site, Manager McNutt conducted public hearings, had local house-to-house polling, and distributed suggested, site development plans prepared by the planning consultant to interested parties. While some residents usually are vehemently opposed, and others strongly for a playground like this, public understanding is highly desirable.

Other tangible evidence of the effectuation of the plan is the cooperation of the two school districts. Already one district has acquired additional land for an extension to an existing central playground.

Going one step further, Mr. McNutt recently proposed in his 1957 capital-improvement budget a long-range program of acquiring most of the needed recreational areas proposed in the plan. The $400,000 program for site acquisitions also provided $50,000 for park construction. The adopted 1958 budget provides funds for the initial purchase of a small playground site. To parallel this capital investment, the appropriation for the Department of Parks and Recreation was proposed to be raised to $40,000 annually to permit adequate supervision and maintenance of the enlarged system. The city would be well able to finance these improvements, as well as over $3 million in other proposed capital improvements, over a ten-year span out of the general property tax. Moreover, the present low city tax rate and method of assessing property would not need to change to permit this park development program.

Summary

Summing up, the basic philosophy of Harper Woods with respect to municipal recreation is this: a relatively small community in a large metropolitan area should not depend on the recreational facilities of the mother city or regional authorities. Instead, the community should step ahead and provide the necessary recreation areas while the land is still vacant and while the general population is still young and in need of it. We further believe that such recreation areas will save the city future monies by promoting better health, by reducing street accidents and by reducing juvenile delinquency considerably.

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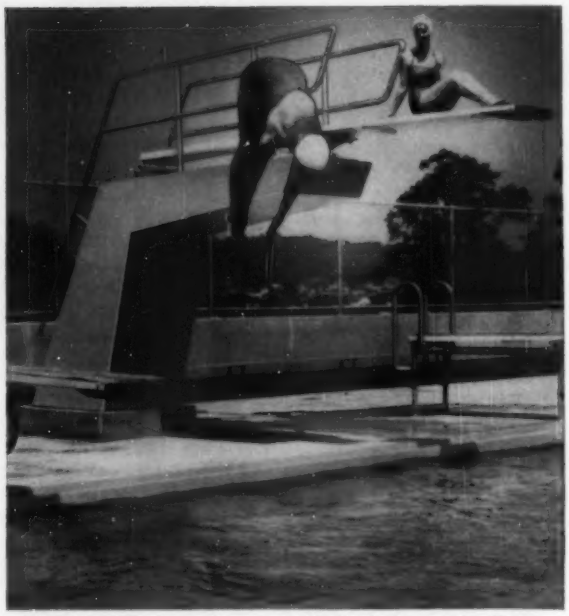

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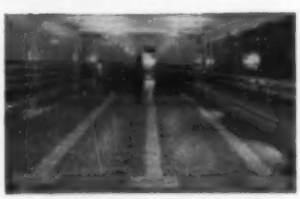
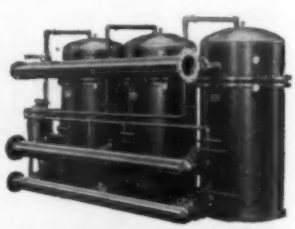


R. P. Adams filters are used to maintain the shimmering clarity of the new Y. W. C. A. pool in Buffalo, New York.



Adams SPF filters are ideal for community pools like that illustrated above. This triple SPF 169 can handle pools up to 730,000 gallons capacity.

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A Workable Uniform Allowance Policy

By ROBERT O. BAILEY
City Manager
Chico, Calif.

UNIFORM allowances have come to be considered in many municipal jurisdictions as a concealed salary subsidy. They have indeed been both established and refused by different cities for this same reason.

The real justification for provision of a uniform allowance is, of course, not the one given above at all. It's purpose is to provide an employee with special work clothing of a variety which can seldom be used in off-duty activities or in other lines of work. Provision of this kind of clothing, if not provided for by the employer, then becomes an inequitable cost item for emergency service employees.

Favorable Results—As We See It

Other favorable results of a uniform allowance are (1) to give reasonable assurance that naturally sloppy or improvident employees do not let their appearance become a detriment to a smart looking emergency service, and (2) to ensure uniformity in uniform quality and appearance.

The City of Chico has evolved a satisfactory and workable uniform allowance policy which has now been in effect for four years. The policy is reproduced below with comments in bold face type:

COUNCIL POLICY
Uniform Allowance

Police officers or firemen on receiving their probationary appointment are required to supply their own dress uniform to meet departmental specifications.

This requirement assures that City funds are not spent to uniform the appreciable percentage of men who do not survive the probationary period. We use California Highway Patrol specifications.

On satisfactory completion of their probationary period they are reimbursed for this dress uniform by the City of Chico. They are thereafter expected to wear dress uniforms only as required by their respective chiefs. In the Police Department, all personnel are required to wear dress uniforms fulltime during the performance of their duties, except when detailed to plainclothes work by the Chief of Police.

No uniform allowance for plain clothes.

In the Fire Department, three officer grades are required to wear dress uniforms fulltime. They are (1) Fire Chief, (2) Assistant Chiefs, and (3) Fire Prevention Engineer. This fulltime use of uniforms wears them out rapidly. Only jeans are authorized to be worn on regular fire hall duty.

Black jeans and blue chambray shirts are purchased by the men, just as the men in other departments purchase their work clothes.

Purpose of Allowance

The purpose of the annual uniform allowance is, then, to provide an appropriation item in the budget to allow for the higher replacement cost of dress uniforms for those who wear them out rapidly in their work. Dress uniform replacement for other fire personnel is not an annual budget item, and may be accomplished only by special arrangement if it can be satisfactorily demonstrated that the dress uniform or parts of it were worn out in actual service when its use was authorized by the Chief.

This happens so seldom that it can be absorbed in the normal uniform allowance account.

The clothing allowance is $120 per year maximum allowed on articles authorized replaced by the Fire or Police Chiefs.

Note: This is a maximum allowable amount for replacement of worn out portions of uniforms, not a concealed salary subsidy. Uniform allowance must be actually spent on uniforms.

All uniforms are purchased through purchase orders issued by the purchasing agent.

Acquisition of uniforms by purchase order assures conformity to specifications; keeps police chief, fire chief, and purchasing agent informed.

Authorization by the department chief is evidenced by his initialling the purchase order and naming the person who will receive the uniform or its replacement parts. The City Accountant keeps records of uniform purchases for each man.

Police Chief checks status of each man's uniform allowance account with the City Accountant before initialling purchase order.

Such articles as badges, cap pieces, shoulder patches and handcuffs are furnished by the city.

Employees buy own uniform specification side arms. Experience has shown that they take better care of their own guns.

Uniforms and accessory articles purchased by the city remain the property of the city and may, at the option of the city, be retained by the city in the event of resignation or discharge.

Since the uniform, once the probationary period is past, belongs to the department, those officers who leave or are dismissed are not furnished uniforms for their next job at taxpayers' expense. Uniforms turned in are cleaned and reissued to other officers.

This does not include poplin or other cotton shirts, ties or shoes. All uniforms or parts of uniforms purchased by the city are stamped with a distinguishing mark to indicate that they are city property.

They are so stamped because some employees purchase additional uniforms at their own expense.

This is the Chief's responsibility. It is also his responsibility to keep a perpetual inventory of such uniforms and accessories, writing off worn out uniforms and parts of uniforms from the department inventory in order to keep it current.

Replaced portions of uniforms are so stamped in order that they may not be presented for replacement a second time.

Special Clothing

Special clothing such as foul weather clothing, boots, etc., is left in the department and is not normally assigned to individuals but worn only while on duty. The department head may, however, assign special equipment to special locations or individual persons.

This clothing is not paid for from individual uniform allowances.

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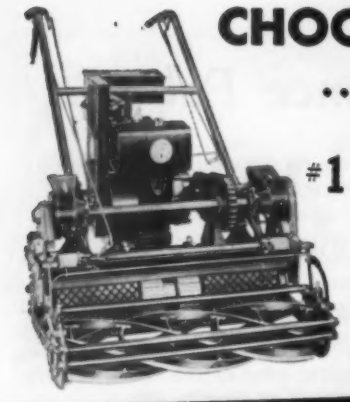

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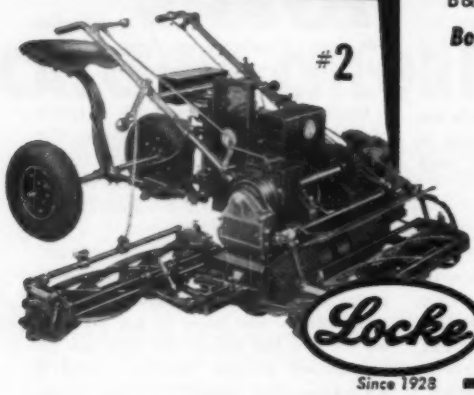
Whichever LOCKE you buy . . . the SINGLE, that cuts and trims in one operation, up to ¾ acre per hour, or, the TRIPLEX, which cuts and trims in one operation, up to 2 acres per hour . . . you are *assured* fast, clean, trouble-free operation with maximum efficiency and greater savings in time and energy; made possible by over 30 years of LOCKE power mower *specialization and leadership.*



#2

#1 ★ 25" and 30" Single Models
Plain or Reverse. 2½ or 5 hp B&S 4 cycle engines.

#2 ★ 70" and 75" Triplex Models
Plain or Reverse. 5, 7, 9 hp B&S 4 cycle engines. Sulkies attach.

Both Models Feature:

- **Positive power, guarded chain drives**
- **Entire mower travels on cut grass**
- **Cutting units are full floating, counterbalanced and gauged by shoes which permit the cutting units to follow the natural contour of the lawn**
- **Wide faced rollers give a gentle rolling to the lawn and will greatly improve its looks**

You owe it to yourself to ask a LOCKE Dealer to show you *how and why* a LOCKE mows it better. Call him now!

Write for the New LOCKE Catalog Sheets.

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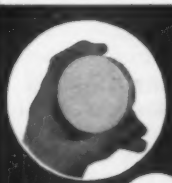
Since 1928

POWER LAWN MOWERS

1315 CONNECTICUT AVE. BRIDGEPORT 1, CONN.

For all-'round deodorizing . . .



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Fragrant, laborless deodorant discs for urinals, bowls, garbage pails, lockers, closets

Deodoroma ROUNDS cost in use averages only a *fraction* of one cent a day. Rounds are formed under 70,000 pounds pressure: are dense and durable. Fragrance is locked in: lasts until the last particle has vaporized—there's no harsh "moth cake odor." Packed eight to the telescoping box—each Round sealed airtight—easy-to-shape Holzit wire holder in every box. For literature write to The C. B. Dolge Company, Westport, Conn.

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PARCOA Systems Provide Unmatched Flexibility for Automatic Off-Street Parking

In city after city, PARCOA controlled parking systems are proving the answer for easing traffic congestion and building business for local merchants.

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Now Available... Automatically issues time-dated tickets where "per-hour" rates apply and for merchant-participation parking. No attendants required at entrance—only one cashier at exit.

PARCOA *Division of* JOHNSON FARE BOX COMPANY

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SALES AND SERVICE OFFICES IN MAJOR CITIES LISTED UNDER BOWSER, INC.

Davenport's Comprehensive Refuse Collection Ordinance

(Continued from page 9)

(i) ***Construction and Location of Garbage Containers and Their Contents.*** Containers for residential garbage shall be constructed of corrugated, galvanized iron, shall have a tight-fitting lid, shall have not less than 20-gallon nor more than 30-gallon capacity and shall be approved by the Superintendent of Refuse. They shall be located, if there is an alley, just off the edge of the paving and not on said paving. If there are no alleys, the can shall be located wnere directed by the Superintendent of Refuse for the pickups. They may be kept in other locations during the week, such as garages, etc., but on collection day the occupant shall place the container where directed by the Superintendent of Refuse.

Small cans and bottles, etc., can be placed in garbage containers with garbage if the container can hold same, plus the garbage for one week. Garbage shall be drained and wrapped before placing in a container. If this is violated and if the occupant, upon written notice, does not comply, the occupant shall be subject to penalties as hereinafter provided.

(j) ***Location of Rubbish.*** Rubbish shall be piled near the edge of the alley paving but not on the paving. Tin cans, bottles, etc., shall be kept in a special container near rubbish pile in the open.

If there are no alleys, the rubbish shall be placed in approved containers and shall be located where directed by the Superintendent of Refuse. These are called carry-outs and no rubbish will be collected like this unless it is in a container, except for grass cuttings, hedges, rakings and branches. These shall be placed on the boulevard and not on the street paving.

In commercial areas, all rubbish must be placed in approved containers and located as directed by the Superintendent of Refuse.

Submerged or underground garbage cans are prohibited.

(k) ***Construction of commercial Garbage Containers.*** Such containers shall be made of metal, substantially well built and have tight-fitting covers. They shall be kept clean at all times. They shall not be placed anywhere so as to interfere with traffic and the location shall be under the jurisdiction of the Superintendent of Refuse.

(l) ***Private Collectors.*** Any person other than the city may collect and

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CALL COLLECT MOnroe 6-7700 • WIRE • WRITE
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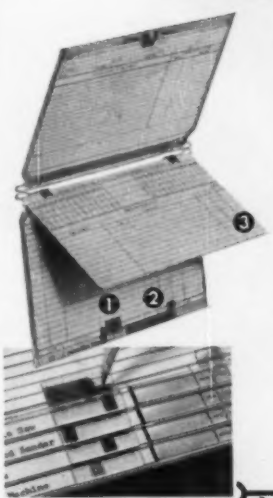
Preventive Maintenance Record Systems

CUT "DOWN" TIME



❶ **ONCE A WEEK** Lock-in chain signals, with 4 windows, each a different color, show the week inspection is to be made. With both month and week signalled, you avoid missing semi-monthly inspections or those requiring more frequent attention.

❷ **ONCE A MONTH** Progressive signals, always visible, show the inspection schedule. Colors designate type of work to be done. When work is completed and entered on record card, signal is advanced to month next inspection is due.

❸ Acme hinged pockets and the two cards on one hanger feature, is ideal for follow-up control. Each machine and motor is listed on an individual card placed in the back of pocket—in facing pocket a "History of Repairs," with signals *always visible,* indicate next inspection or lubrication date—"Spare Part in Stock" record card is hung on the same hanger as "History of Repairs" card.

ACME VISIBLE RECORDS, INC.
CROZET, VIRGINIA

District Offices and Representatives in Principal Cities

ACME VISIBLE RECORDS, INC. CROZET, VIRGINIA
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☐ Send us more information and literature on Preventive Maintenance.

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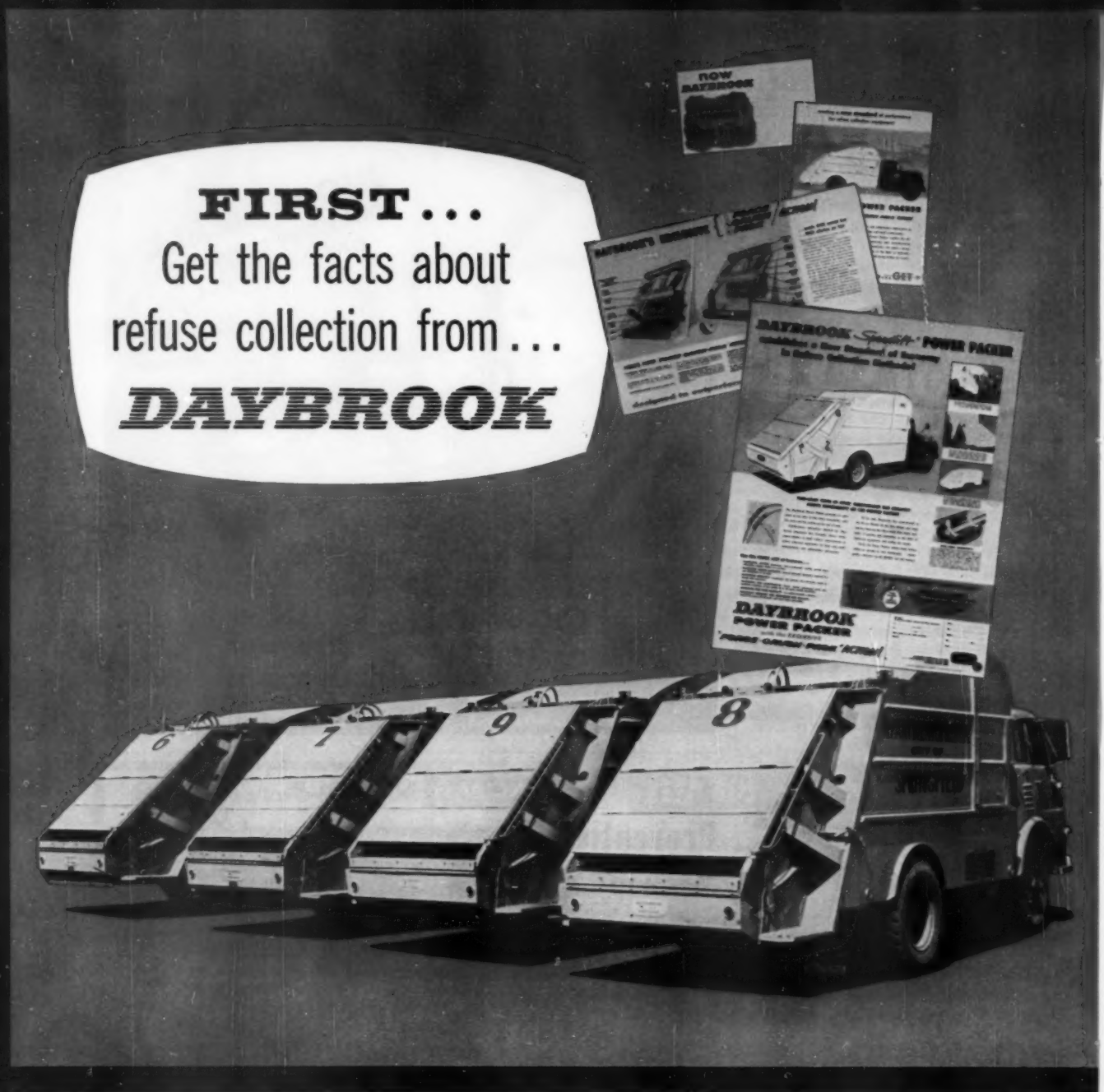
City..... Zone..... State.....



Daybrook invites you to compare Power Packer operation in your city.

Write for a TIME-LOAD demonstration to be scheduled at your convenience on an established route of your choice.

Address Dept. AC-1.

Power Packer continuous F.C.P. Action means—More Collections—More Distance per Route

The *exclusive* F.C.P. (force, crush, pack) action of the Daybrook Power Packer is the big factor in increased speed and greater economy in refuse collecting operations. The complete cycle *pre-crushes* all materials before it enters the truck body. Refuse remains compacted in the body providing the utmost in load density. The entire operation is fast and safe for crews and operators . . . contractors or municipalities.

DAYBROOK Speedlift TRUCK EQUIPMENT

DAYBROOK Speedlift DUMP BODIES—HOISTS—POWER LOADER—POWER PACKER—POWER GATE.

DAYBROOK HYDRAULIC DIVISION *YOUNG SPRING & WIRE CORPORATION, BOWLING GREEN, OHIO*

dispose of garbage or rubbish, if they provide themselves with an approved type truck. Such approval shall be obtained from the Superintendent of Refuse and upon his recommendation the Department of Public Works shall issue him a permit to collect, good for one year from date, for which there will be a charge of $25.00 per year or any part thereof.

(m) ***Dead Dogs, Cats and Other Animals.*** Dead dogs and cats will be collected and disposed of by this department. The office of the Department of Public Works at the City Hall shall be called. These animals will be picked up as soon as possible and disposed of by burying at the garbage dump. There will be no charge for this.

Other dead animals shall be defined as including dead horses, cattle, sheep, goats, hogs or any animal larger than the common rat.

(n) ***Board of Health—Dead Animals.*** Immediately upon receipt of the notice of the location of any dead animal (other than dogs and cats) larger than the common rat, the Board of Health shall notify the person, firm or corporation, whose duty it is to remove same, to have the dead animal removed within 8 hours.

In case the anima. is not removed within the 8 hours, after said notice, the Board of Health shall remove same and certify the cost of removing same to the City Council and it shall be levied as a lien on the offender's property, where the animal is found.

(o) ***General Conditions.***

(1) It shall be unlawful for any person to deposit any refuse upon the streets, alleys, lanes or public property of the city except at dumps set aside for such purposes.

(2) The Board of Health shall have charge of all matters that in their opinion become a health measure and shall proceed to enforce anything it deems advisable, or that the City Council may order it to enforce.

(3) No person shall dump any junked material, vehicle bodies, tree trunks, limbs or trimmings, dirt, stone, ashes, wood, garbage, or other refuse of any other description on any public property or public dump in the City of Davenport, Iowa, except in accordance with the provisions hereof.

(4) All such materials unless dumped at a central dump as may from time to time be designated by the Director of Public Works, shall only be deposited upon some other public dump, with the permission of such Director.

(5) Such public dumps as designated by the Director of Public Works shall have a sign placed thereon with a warning requiring compliance with Paragraph (4) hereof.

(6) No person shall dump any materials in any private property which may be likely to take fire, be set afire or cause a fire.

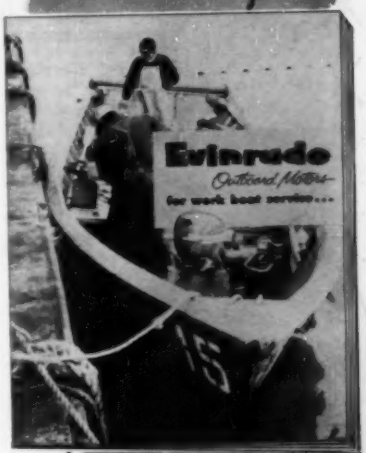
(7) Any object or material not entirely solid or any object or material which when dumped cannot be leveled off, must either be broken up, cut up, or compressed flat before being deposited upon any dump.

(8) Materials shall not be dumped upon any public dump before 8:00 o'clock a.m. nor after 5:00 o'clock p.m., unless by permission of the Director of Public Works.

American Public Works Association Prexys

Seven presidents—past and present—take time out for pleasantries during the 63rd Annual Public Works Congress and Equipment Show, held in Philadelphia recently. Association president for 1958 is Sol Ellenson, Director of Public Works at Newport News, Va. Immediate past president is Robert L. Anderson, Director of Public Works, Winnetka, Ill. Left to right, in the photo, are: Milton Offner, Secretary, Board of Public Works, Los Angeles, Calif.; Robert L. Anderson; A. H. Rogers, Superintendent of Public Works, Garden City, N. Y.; Sol Ellenson; William A. Xanten, Superintendent, Division of Sanitation, Washington, D. C.; Carl Schneider, Consulting Engineer, New Orleans, La.; and Milton Rosen, Commissioner of Department of Public Utilities, St. Paul, Minn.

new book



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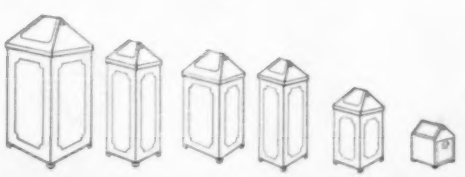
INDOORS... OUTDOORS

New easier-to-use top, eye-catching design and Superior construction invites cleanliness and cuts cleaning costs.

Exclusive new top with two full-width flaps that swing in to keep rain out. Flaps swing independently for safe, easy waste disposal. Hinged top folds back for easy emptying and is interchangeable with existing tops. Stainless steel legs prevent floor damage and rusting. Flaps available in stainless steel or painted steel in choice of colors.

A complete line of quality receptacles for long life and low maintenance cost.

- Flaps swing in to keep rain out
- Modern design fits any location
- Colors to match any decor
- Hinged top
- Easy to empty
- Rust resistant
- Long life



No. 250 No. 215 No. 230 No. 212 No. 210 No. 203

JET

Only self-closing receptacle that opens from any direction

SUPERIOR

JOHN WOOD COMPANY

Superior Metalware Division • St. Paul, Minn.

Superior manufactures wire crates for paper and glass bottles • milk cans • cream cans • hooded and open pails • strainers • other metalware for the Dairy Industry and Solar-Superior waste receptacles

Zoning & Planning Notes

Trailers—Minimum Lot Requirements

NEW YORK. *Harding* v. *Islip*, 164 New York Supplement (2d) 523 (Appellate Division (intermediate court), July 1, 1957).

In this case, a comprehensive ordinance regulated trailers in the Town of Islip, with requirements of 12,000 square feet of lot area per trailer and 30 feet of frontage. The zoning ordinance was amended to require minimum plots of 20,000 square feet for single-family dwellings. An application for a trailer park in an industrial district was denied, for failure to conform to the 20,000-square-foot requirement. The Courts overruled the denial, on the ground that the much larger single-family limitation had nothing to do with house trailers.

Temporary Parking Lot On Redevelopment Site

NEW YORK. *Biegel & Feig Realty Corporation* v. *City of New York*, 156 New York Supplement (2d) 548 (Supreme (lower) Court, September 19, 1956).

In this case, a large tract in the area west of Central Park was approved for a Title I slum clearance project (called "Manhattantown" or "West Park"), and half of it was cleared. Subsequently all sorts of difficulties developed, and the area remained cleared for several years, with no new construction. Part of the cleared area was used temporarily for a parking lot, and the present complaint was brought to enjoin such use.

In the opinion, the Court held that nothing in the statute forbade such use. It was noted that the enabling legislation was rather un-explicit with respect to any precise requirements on the future use of cleared property. It was also held that the contract did not forbid the use of the land for a parking lot.

Signs

NEW YORK. *People* v. *New York Central Railroad Company*, 165 New York Supplement (2d) 877 (Westchester County (lower) Court, December 18, 1956).

CALIFORNIA. *City of Los Angeles* v. *Barrett*, 315 Pacific (2d) 503 (District Court of Appeal (intermediate court), September 13, 1957).

In the New York case, the New York Central Railroad installed 20 billboards with commercial advertising around the Bronxville railroad station—sixteen on a fence between the tracks, and four on a station wall facing the tracks. All of these billboards were larger than permitted in a business district in Bronxville. The Court held that the Village had no power to regulate such billboards.

In the opinion, the Court held first that a railroad station was not a "public place," where villages admittedly had the power to regulate billboards. The Court pointed out that in this case, the regulations were clearly for aesthetic purposes, and stated that the Court of Appeals had not passed favorably on such regulations, particularly in business districts.

In the Los Angeles case, a local ordinance required permits for "outdoor advertising structures" from one local agency, and forbade any such signs which were designed to be viewed primarily from the Hollywood Freeway, or which might create a traffic hazard there; and a separate ordinance required permits for "roof signs" from another local agency. In this case a permit was acquired for a roof sign, 16 by 37½ feet in area, to be built on a lot below but adjacent to the Freeway, so that the sign would extend above the roof of a small one-room building on the lot, apparently without actually touching it. Apparently the proposed sign referred to a business conducted on the premises. The permit was revoked right after a hole had been dug for the foundation; but construction was continued until the steel framework was practically completed, when a preliminary injunction was obtained. The landowners argued that this sign was permissible as a "roof sign." The manager of the City's Department of Traffic testified in detail that the billboard might distract the attention of motorists on the heavily-travelled Freeway.

In the opinion, the Court held irrelevant the fact that the sign was over the roof of a small building. After a complicated review of the various overlapping ordinance provisions, it was held that there was enough evidence in the record to support at least a preliminary injunction.

Hospital Dormitories in Residence District

NEW YORK. *De Mott* v. *Notey*, 3 New York (2d) 116, 164 New York Supplement (2d) 398 (Court of Appeals (highest court), July 3, 1957).

In this case, a private hospital run by a group of doctors was located (as a permitted use) in a Residence A district. The hospital purchased two contiguous houses, one on each side, which were occupied by hospital employees under various arrangements for rental or for deductions from their salaries. The lower courts held that such use of the two houses constituted an illegal lodging house, which was not permitted in this district.

In reversing, the Court of Appeals held that the hospital and the two adjacent residences were "a unified facility," and that the residences were permitted as an accessory use under the local zoning law.

> "It is however generally known, which in these times may be judicially noticed, that hospitals customarily provide living accommodations for at least some of their personnel. Here, there was, in fact, testimony that some of the nurses and technicians would not have taken employment in this hospital or would not have continued their employment if living quarters had not been so provided."

Racial Covenants Again

COLORADO. *Capitol Federal Savings and Loan Association* v. *Smith*, 316 Pacific (2d) 252 (Supreme (highest) Court, October 7, 1957.)

In this case, a group of existing property owners signed an anti-Negro racial covenant in 1942, with a provision that any lots sold in violation of the covenant should be forfeited. In an action to quiet title, brought by Negro purchasers of one of these lots, it was argued that this was not a racial covenant at all, but that the provisions for forfeiture created a future interest in the land, known as an executory interest, which would vest in the other owners automatically upon forfeiture, without involving any judicial action by the courts. This was of course an attempt to get around the Supreme Court's ruling that the courts cannot enforce racial covenants, either by injunction or damages. The Colorado courts refused enforcement.

In the opinion, the Court recognized that the attempt to enforce (or decree) forfeiture was simply one more attempt to bring judicial action to the aid of a racial covenant.

> "Covenants such as the one here considered whether denominated 'executory interests' or 'future interests,' as urged by counsel for defendants, cannot change the character of what was here attempted. . . ."

> "No matter by what ariose terms the covenant under consideration may be classified by astute counsel, it is still a racial restriction in violation of the Fourteenth Amendment to the Federal Constitution. That this is so has been definitely settled by the decision of the Supreme Court of the United States. High sounding phrases or outmoded common law terms cannot alter the effect of the agreement embraced in the instant case. While the hands may seem to be the hands of Esau to a blind Isaac, the voice is definitely Jacob's. We cannot give our judicial approval or blessing to a contract such as is here involved. . . ."

> "Because the United States Supreme Court has extracted any teeth which such a covenant was supposed to have, no rights, duties or obligations can be based thereon."

It should perhaps be noted that the Court indicated some skepticism as to the actual nature of the proceeding before them.

> "We are unable to rid ourselves of a strong impression that this writ of error is being prosecuted in the interest of title examiners, rather than in that of the property owners in Block 6 Ashley's addition to Denver. In the brief of counsel for plaintiffs in error we find this significant language: 'Title examiners are in constant apprehension as to whether a title may be passed where these restrictive covenants prevail, and we feel that we should call upon this Honorable Body as to the doubts of this decision.'"

This is an area of law in which both persistence and resourcefulness flourish. For forty years after the United States Supreme Court invalidated racial zoning, such ordinances continued to be passed, usually with various forms of subterfuge; and one such case actually went to the Supreme Court within the last few years. Similarly, in the ten years since racial covenants have been outlawed, devices have been tried in an attempt to pump a parting breath of life into such agreements. Here the Colorado court, with little ceremony, disposed of one such.

4:30 p.m.
Conditions hazardous

5:15 p.m.
Rush hour traffic moves safely

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makes streets and roads safe faster

Speedy ice and snow control keeps towns and highways running smoothly, holds fatalities and injuries down. And here are new test results proving once again that Columbia Calcium Chloride brings safety to surfaces *faster*. This skid-proofing chemical melts *8 times as much ice* within thirty minutes after application as is melted by salt. Here are comparative results over a two hour period:

Better order an ample supply of Columbia Calcium Chloride today through your nearest Columbia-Southern District Sales Office.

AMOUNT OF ICE MELTED
15 TO 120 MINUTES

350 Grams ice in 7" by 11" pan
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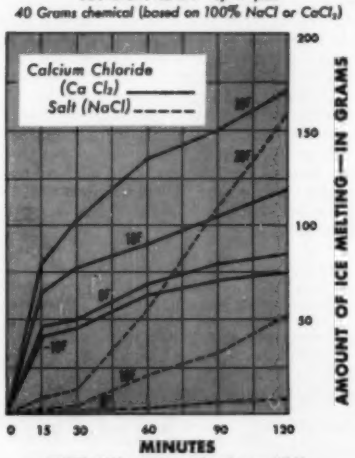

NOTE: NO reaction with salt at —10 F.

Columbia Calcium Chloride is available in both High Test Flake (94-97% $CaCl_2$ content) and Regular Flake (77-80% $CaCl_2$).

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Contributed by WILLIAM JABINE, Attorney

Zoning Briefs

California

COERCIVE ORDINANCE HELD INVALID. Building permit for residence refused under terms of ordinance which provided that all owners of lots in allegedly illegal subdivision must comply with ordinance before any permits would be granted. Court held this coercive ordinance invalid and upheld mandamus to compel issuance of permit. Munns v. Stenman, 314 P.2d 67. (Second District Court of Appeal, Div. 2, July 16, 1957; Rehearing Denied Aug. 13, 1957.)

ZONING CHANGE MUST BE REASONABLY PROBABLE TO QUALIFY AS EVIDENCE. In proceedings to condemn land for school, evidence of possible change in zoning was admitted, as plans for construction of shopping center made such changes a reasonable probability and not mere conjecture. Redondo Beach School District v. Flodine, 314 P.2d 581. (Second District Court of Appeal, Division 1, Aug. 23, 1957.)

Florida

NO VARIANCE FOR COMPLETELY NON-CONFORMING USE. Variance granted permitting filling station in area zoned for motels and tourist accommodations. Court held that filling station would be a completely non-conforming use and that allowing it would be amending an ordinance under the guise of a variance. It pointed out that owner had bought property with full knowledge of zoning requirements and that by applying for a variance he had recognized the validity of the ordinance. Josephson v. Autrey, 96 So.2d 784. (Supreme Court, En Banc, June 26, 1957: Rehearing Denied, Sept. 21, 1957.)

Illinois

CONDITIONS ATTACHED TO VARIANCE HELD VALID. Variance with conditions granted to automobile dealer for construction of one-story building in neighborhood commercial zone. Conditions required that space in front of building be landscaped but owner desired to use it for display of used cars. Court ruled, that although display of used cars elsewhere would diminish profits, variance was valid as granted and that dealer's acceptance of main terms of variance by putting up building precluded him from objecting to conditions attached thereto. Zweifel Manufacturing Corp. v. City of Peoria, 144 N.E.2d 593. (Supreme Court, May 23, 1957: Rehearing Denied, Sept. 16, 1957.)

Michigan

SUBSTANTIAL OPERATION NECESSARY TO ESTABLISH NON-CONFORMING USE. Operation of gravel pit in residential zone enjoined although operator claimed he was entitled to continue as non-conforming use because of preliminary work done before enactment of zoning ordinance. Court ruled that although passed at special meeting, ordinance was valid, saying that individual profits must give way to public good and that no substantial work before passage of ordinance had been proved. Township of Bloomfield v. Beardslee, 84 N.W.2d 537. (Supreme Court, July 31, 1957.)

New Jersey

ZONING FEATURES OF LICENSING ORDINANCE VALID. Operator of junkyard convicted of violation of licensing ordinance which required that junkyard be at least 500 ft. from dwellings contended that regulation really was a zoning ordinance and had not been passed by procedures required for zoning ordinances. Court held licensing ordinance valid despite its zoning features. Howell Township v. Sagorodny, 134 A.2d 452. (Supreme Court, Appellate Division, Aug. 21, 1957.)

COURT DESIRES PRECISE DATA BEFORE MAKING RULING. Zoning ordinance prohibited apartment houses in certain areas, including one and two family residence, business and industrial zones. Trial court held ordinance invalid but on appeal Court demanded that detailed maps showing all uses of property in disputed areas be submitted and case reargued on basis of the precise information so produced. Fanala v. Borough of Hasbrouck Heights, 134 A.2d 529. (Superior Court, Appellate Division, Sept. 13, 1957.)

New York

RADIO TOWER BARRED IN RESIDENTIAL ZONE. Amateur radio operator with Government license desired to put up 44 ft. radio tower in his yard in highest classification residential zone. Application was denied on ground that structure would be an eyesore and that radio transmission was not a customary necessary use. Court ruled against tower in 5 to 2 decision which held that applicant would not be deprived of any vested right. Presnell v. Leslie, 144 N.E.2d 381: 3 N.Y.2d 384. (Court of Appeals, July 3, 1957.)

COSTLY ITEMS REQUIRED BY ORDINANCE SUSPENDED DURING LITIGATION. Zealous town officials sought to enforce all provisions of trailer park regulatory ordinance while action challenging validity of ordinance was still pending in courts. On appeal from denial of temporary injunction restraining enforcement until case was decided, Court ruled that general licensing provisions could be enforced, but that provisions requiring considerable expense for building fences and separate sanitary facilities should be suspended until principal action was decided. Mitchell v. Town of Ulster, 164 N.Y.S.2d 529. (Supreme Court, Appellate Division, Third Department, July 24, 1957.)

ADVERTISING SIGNS ON RAILWAY STATION PLATFORM APPROVED. Advertising signs were attached to fence at Bronxville railway station although ordinance forbade signs not attached to buildings and regulated their size. Court held that railway station was not a public place as described in the ordinance and that attempt to prohibit signs bore no reasonable relation to the public safety or general welfare. People v. New York Central Railroad Company, 165 N.Y.S.2d 877. (Westchester County Court, Dec. 18, 1956.)

APPEAL BOARD LACKS POWER TO REQUIRE ACTION. Issuance of building permit for garden apartments in Residence E zone directed by Zoning Board of Appeals, Court held that Board had no power to direct issuance of permit as permit had neither been granted or denied and owner should have applied directly to courts for order directing performance of statutory duty. Town Board v. Zoning Board of Appeals, 165 N.Y.S.2d 954 (Supreme Court, Special Term, Suffolk County, June 5, 1957.)

DELAY CAUSED BY SERIES OF LAWSUITS PROLONGS LIFE OF VARIANCE. As a direct result of protracted litigation extending over many months, time allowed for beginning of construction of swimming pool, wading pool and bathhouse under terms of variance had expired. Objecting neighbors who had lost previous actions in various courts sought to prevent start of work on ground that variance had expired, but Court ruled that as there had been no change in the general situation and that as new variance would be granted on application, work should proceed. Blum v. Board of Zoning and Appeals, 166 N.Y.S.2d 32. (Supreme Court, Special Term, Nassau County, Part I, July 1, 1957.)

STATE LAW SUPERIOR TO ZONING ORDINANCE. Although local zoning ordinance forbade retail liquor sale for on-premises consumption within half mile of school, New York State Liquor Authority granted tavern permit within that distance from public school. On conflict between State and local laws Court ruled that "localities have no right to legislate additional requirements which are contrary to a definite standard adopted by the state for location of taverns." Grundman v. Town of Brighton, 166 N.Y.S.2d 55. (Supreme Court, Monroe County, Nov. 17, 1956.)

Ohio

DECREASE IN VALUE NOT BAR TO REZONING. Rezoning of area from retail business to multi-family residential challenged by operator of gas station. Court held that possible changes in zoning must be anticipated and that decrease in value of individual properties is not a bar to such changes. Curtiss v. City of Cleveland, 144 N.E. 2d 177. (Supreme Court, July 10, 1957.)

NO REAL EMERGENCY: ORDINANCE INVALID. Owner of property in B. residence zone desiring to construct business building challenged passage of ordinance which had been voted down at regular meeting and then passed on same day as an emergency measure. Court ruled such action improper and held ordinance invalid. State v. Neilson, 144 N.E. 2d 278. (Court of Appeals, Montgomery County, Mar. 1, 1957.)

Oregon

ELECTION UNDER INVALID STATUTE RULED OUT ON REHEARING. On rehearing of case in which it had declared creation of county zoning district invalid because voting had been restricted to freeholders, Court turned down contention that even though the statute under which the election had been held had been ruled invalid, the formation of the district should be sustained because there was no reason to believe that the result would have been different if non-freeholders had voted. Creation of district still held null and void. Petercourt v. East Washington County Zoning District, 314 P. 2d 913. (Supreme Court, On Rehearing Sept. 6, 1957.)

Texas

ACT OF REZONING DOES NOT OVERRIDE COVENANT. Covenant in 1928 deeds restricted area to residential use. In plea for permission to build gas station, fact that City had rezoned area for business was advanced. Court held that fact of rezoning could not override express terms of covenant and barred gas station. Morton v. Sayles, 304 S.W. 2d 759. (Court of Civil Appeals, Eastland, June 14 1957: Rehearing Denied Sept. 6, 1957.)

Virginia

UNUSUAL POWER GIVEN TO RICHMOND ZONING APPEAL BOARD. Board of Zoning Appeals granted City of Richmond permission to build juvenile detention home on land owned by City in single-family residence zone. Court ruled that Richmond's Board of Zoning Appeals possessed exceptional authority not usually granted to such bodies, as it had specific power to grant such permission when reasonably necessary in the public interest. Construction of juvenile home permitted. Wicker Apartments v. City of Richmond, 99 S.E. 2d 656. (Supreme Court of Appeals, Sept. 6, 1957.)

Legal Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS
Charles S. Rhyne, General Counsel

Annexation Of State-Owned Navigable Submerged Lands Held Valid

In action by state and oil companies to contest validity of home rule city's annexation of submerged land under bay, held, home-rule city may annex any adjacent property if not arbitrary abuse of power. *State* v. *Texas City*, 295 S.W.2d 697 (Tex. Civ. App., Nov. 1, 1956)

Bids—Beach Front Property Lease Invalid

In action against city and lessee under statute requiring competitive bids and advertising when city leases its land (*Asbury Park Press* v. *City of Asbury*, 115 A.2d 564) where city did not give prospective bidders sufficient time to consider investment and where it had departed from long-established practices, held, bidding laws not obeyed and lease would be void. *Asbury Park Press Inc.* v. *City of Asbury Park*. 127 A.2d 401 (N. J., Dec. 10, 1956)

Boat Speed Ordinance Sustained

In prosecution for violation of ordinance fixing speed of motor boats on waters within town's jurisdiction, held, Hempstead ordinance is valid since federal act prohibiting reckless operation of boats did not evince an intent to preempt the field. *People* v. *Bianchi*, 155 N.Y.S.2d 703 (N. Y. Dist. Ct., Nassau City, 2d Dist. Aug 29, 1956)

Bridges—Child Falls From—City Liable

In action by child for fall from unprotected pipe line on one side of bridge, held, dangerous condition existed for some time so that city could be charged with constructive notice and would be liable. *Gallipo* v. *City of Long Beach*, 304 P.2d 106 (Cal. App., Dec. 3, 1956)

Building Permit—Condemnation Conditions Placed On Granting Variance Invalid

Where owner of land was granted variance to permit construction of a garage on condition that if property were condemned, the cost of condemnation would be amortized over term of 10 years at the rate of 10% per year, held that condition was confiscatory and invalid as to a proposed structure with minimum useful life of 50 years. *Rand* v. *City of New York*, 155 N.Y.S.2d 753 (N. Y. Sup. Ct., Queens City, Aug. 16, 1956)

City Employees—Wages Set According to Prevailing Rates in Industry Invalid

In action by city employees to recover wages under ordinance providing for payment of hourly wage rates prevailing in private industry as determined by state labor commissioner, held, ordinance unlawfully delegates municipal power. *Adams* v. *Albuquerque*, 307 P.2d 792 (N.M., Jan. 21, 1957)

City Officers—Liability Imposed For Sinking Fund Expenditure

In action by city against mayor, city treasurer, clerk and others to recover money expended from sinking fund created to retire revenue bonds where money was paid to deceased bond dealer without retirement of bonds, held that all three city officers, their sureties and those possessing money paid or property traceable to city's funds, were answerable. *City of Lake Worth* v. *First Nat'l Bank*, 93 So.2d 49 (Fla., Feb. 6, 1957)

Council—Interest Of One Voting Member Voids Zoning Amendment

In action by taxpayers to challenge validity of amendatory zoning ordinance where voting councilman worked for corporation which stood to benefit from amendment, held that ordinance was voidable though interested councilman's vote was not necessary for passage. *Aldom* v. *Borough of Roseland*, 127 A.2d 190 (N.J. Super. Ct., App. Div., Nov. 27, 1956)

Dumps—City Not Liable For Injuries Caused To Minor

In action by minor for injuries caused when minor found camp stove on city dump and set fire to fuel reservoir in stove, held though dump was nuisance, city would not be liable. *Champeau* v. *Village of Little Chute*, 81 N.W.2d 562 (Wis., Mar. 5, 1957)

Extraterritorial Powers—Sewer Contract Binding

Where city granted resident outside city limits right to "connect" to city sewer system in exchange for easement, and where court in prior action rendered judgment under this agreement, allowing connection free of any "costs or charges," held that city could not subsequently pass ordinance imposing charge for "use" of sewers since judgment was conclusive and since resident was not amenable to ordinance that would unconstitutionally impair obligation of contract. *Tronslin* v. *City of Sonora*, 301 P.2d 891 (Cal. App., Sept. 28, 1956)

False Arrest—City Not Liable For—Notice Of Claim Not Required

In action by minor against police officer and city for false arrest, false imprisonment and assault, held that a municipality is not liable for the torts of its officers in performing governmental functions and that statute requiring notice of damages to city clerk does not apply to cases involving intentional torts. *Chappelle* v. *City of Concord*, 301 P.2d 968 (Cal. App., Oct. 4, 1956)

Gross Receipts Tax on Advertising Receipts Valid

In action to recover general business taxes from City of New York, held, city may impose local privilege gross receipts taxes on advertising receipts though advertising was national in character without placing invalid burden on interstate commerce. *New Yorker Magazine* v. *Gerosa*, 157 N.Y.S.2d 468 (N. Y. Sup Ct., App. Div., 1st Dept., Dec. 11, 1956).

Interest—Councilman As Director of Depository Bank

In prosecution under statute forbidding public officers to be interested in sales, leases or contracts where defendant had voted for resolution to deposit city funds in bank for which he was director and stock holder, held, not guilty since treasurer would be one making contract of deposit. *People* v. *Meschutt*, 163 N.Y.S.2d 891 (N. Y. Sup. Ct., App. Div., 2d Dept., May 27, 1957).

Junk Yard Ordinance Sustained

In prosecution for engaging in business of junk dealer without first obtaining license, held, ordinance definition of junk dealer as one "who occasionally, regularly, principally, or incidentally engages in buying, selling, keeping, dumping, disposing of or collecting junk" was not unreasonable. *City of Lewiston* v. *Mathewson*, 303 P.2d 680 (Idaho, Nov. 13, 1956).

License Taxes Levied on Finance Companies Held Valid

In action by small loan companies to recover license taxes, held, revenue ordinance exacting $2,500 per year for privilege of doing business in city was not unreasonable, excessive or confiscatory. *Dixie Finance Co.* v. *City of Demopolis*, 90 So.2d 732 (Ala., Nov. 15, 1956).

Licensing of Electrical Contractors Invalid As to State Licensees

In action by electrical contractor to test ordinance licensing and regulating electrical contractors, held, ordinance invalid only as to contractors holding state license. *Agnew* v. *City of Culver City*, 304 P.2d 788 (Cal. App., Dec. 21, 1956).

Noise—Automobile Factory Not Guilty of Making Unnecessary

Automobile factory does not violate ordinance making it an offense to create unnecessary and unreasonable noises. *City of Euclid* v. *General Motors Corp.*, 140 N.E.2d 435 (Ohio App., Feb. 27, 1957).

Notice of Claim to Wrong Official Held Valid

In action by pedestrian who tripped on negligently-maintained manhole cover in sidewalk, held, notice to corporation counsel constitutes notice to commissioners and sufficiently pin-pointed locale to be otherwise valid. *Stone* v. *District of Columbia*, 85 Wash. Law Rep. 26 (D. C. Cir., June 28, 1956).

Peddlers—Attendant Requirement Invalid

In action by corporation engaged in sale of ice cream from refrigerated trucks to enjoin ordinance requiring driver to be accompanied by attendant who would protect children from traffic hazards, held, ordinance unconstitutional, arbitrary interference with business. *Tri Distribution Corp.* v. *City of Albany*, 156 N.Y.S.2d 912 (N. Y. Sup. Ct., App. Div., 3d Dept., Sept. 24, 1956).

Permits—Massage Parlor's Permit Revoked

In action against city to compel restoration of permit to operate rock steam bath and massage parlor which had been revoked on ground that permit was being abused to detriment of public or for different purpose from that which it was issued, held, revocation for clandestine operation valid. *Simpson* v. *City of Santa Monica*, 302 P.2d 455 (Cal. App., Oct. 24, 1956).

Policemen—Chief Not Liable for Assault By Subordinate

In civil action against officer and police chief for assault, rape and armed robbery allegedly committed by officer, held, chief of police not liable, though he knew of officer's tendency to do violent acts like those alleged, since lack of good faith in performing discretionary duty was not alleged. *Stiebitz* v. *Mahoney*, 126 A.2d 148 (Conn., Oct. 1, 1956).

Streets—Dead End Street Not Properly Marked—City Liable

In action for death of driver of car that plunged through bulkhead that could not be seen by driver at dead-end street because of dirt deposits, held, city and county responsible. *Hartman* v. *City of Brigantine*, 126 A.2d 224 (N. J. Super. Ct., App. Div., Oct. 25, 1956).

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Recent City Manager Appointments

Lynn Andrews
San Antonio, Tex.

Oscar Hettema
Dade City, Fla.

Thomas G. Dunne
Salinas, Calif.

H. A. Glaves, Jr.
Lodi, Calif.

W. J. Brown, Jr.
Opa-locka, Fla.

Buford W. McRae
Jacksonville, Fla.

LYNN ANDREWS, assistant manager of San Antonio, Texas, has been appointed manager of San Antonio effective February 1 when city manager, Steve Matthews, leaves to become director of the League of Texas Municipalities.

RICHARD BARTON, in private business in Bluefield, W. Va., has been appointed manager of Mount Pleasant, Tenn.

JOHN P. BATCHELDER, previously manager of Parsippany-Troy Hills, N. J., was recently appointed manager of Hampton, N. H.

GEORGE E. BEAN, manager of Peoria, Ill., for four years is the new manager of San Diego, Calif., succeeding O. W. Campbell. He was previously manager of Escanaba, Pontiac, and Grand Rapids, Mich. Mr. Bean was president of ICMA in 1953.

WALTER J. BROWN, JR., administrative analyst, Budget Research Department, Kansas City, Mo., is the new manager of Opa-locka, Fla.

E. R. CAULEY, mayor of Kingsville, Texas, was recently appointed city manager of that city succeeding G. G. Medders.

THOMAS G. DUNNE, acting city manager of Salinas, Calif., was recently appointed city manager of that city, succeeding Ted B. Adsit. Mr. Dunne has been with the City of Salinas for the past 11 years in the various capacities of office engineer, planning director, assistant city manager, and director of public service.

GENE GATLIN, manager of Orange, Texas, for nearly three years, was recently appointed manager of Edinburg, Texas, succeeding C. W. Vetters. Mr. Gatlin was previously manager of Gilmer, Texas.

HENRY A. GLAVES, JR., city clerk of Lodi, Calif., was recently appointed city manager of that city, succeeding H. D. Weller.

ROBERT D. HEITSCH, JR., manager of Mt. Clemens, Mich., for three years, was recently appointed manager of Rock Island, Ill., succeeding Cornelius Bodine, Jr. Mr. Heitsch was previously manager of Davison and Wayne, Mich., and Farmington, Conn.

OSCAR HETTEMA, city manager of Dade City, Fla., for the past eleven years, is the new manager of Winter Haven, Fla., succeeding J. H. Fuller.

R. M. HOISINGTON, city manager of Sioux City, Iowa, for nearly four years, was recently appointed the first manager of Huntington, W. Va. He was previously manager of Ashtabula and Springfield, Ohio.

HARRY H. HOUCK, administrative assistant, Haddonfield, N. J., succeeds E. B. Millett as manager of Cordova, Alaska.

JOHN S. KOONTZ, purchasing agent and acting manager of Pampa, Texas, was recently appointed manager of that city.

CALVIN M. LAKIN, manager of Mexico, Mo., for four years, was recently appointed manager of Port Huron, Mich., succeeding Jay F. Gibbs who is retiring. Mr. Lakin was previously city manager of Norway, Mich.

BUFORD W. MCRAE, manager of Jackson, Ala., for three and one-half years, was recently appointed city manager of Jacksonville Beach, Fla.

CLARENCE PADEN, is the new manager of Pawhuska, Okla., succeeding W. T. Loman.

JAMES F. ROOSEVELT, a safety engineer, has been appointed the new manager of Rahway, N. J.

G. A. SCRIMSHIRE, city manager of Mission, Texas for the past two years, is the new manager of Irving, Texas. He was previously manager of Carrizo Springs, Texas.

ROBERT A. SLONE, manager of Rochester, Mich., for eight years, is the new manager of Grosse Pointe Park, Mich., effective February 1958. He was previously manager of Flushing, Mich.

JACK P. SWEITZER, manager of Haltom City, Texas, was recently appointed manager of Madison Heights, Mich., succeeding Donald V. Smith.

MARLIN THOMPSON, city attorney of Orange, Texas, was recently appointed manager of that city, succeeding Gene Gatlin.

LYLE C. TOWNE, city manager of Brownsville, Maine, for over five years, was recently appointed manager of Monson, Maine, succeeding Silbur Kronholm. Mr. Towne was previously manager of Monson.

JOHN W. TRUE, manager of Hampton, N. H., for the past three years, was recently appointed manager of Mexico, Maine., succeeding Ronald W. Clifford. Mr. True was previously manager of Gloucester and Old Orchard Beach, Maine, and Lancaster, N. H.

FRED E. WEISBROD, manager of Oberlin, Ohio, for two years, was recently appointed manager of Painesville, Ohio. He was previously assistant to the public works director, Silver Springs, Md.

ORIN F. NOLTING
Executive Director
International City Managers' Association

Aerial Inventory of Property—and Tax Maps

BUCKS COUNTY, Pa., has completed a two-year aerial inventory of all properties at a saving of $60,410. Contracted for at $400,000 in June 1955, the big tax mapping job was completed for $330,590. The survey was made by Aero Service Corporation, Philadelphia.

Property records in Bucks were old, incomplete, and inadequate, according to John T. Welsh, Chairman of the Board of Commissioners. The new survey has added several thousand previously unlisted and unassessed properties to the tax records.

The nearly 1,350 tax maps compiled during the survey cover more than 94,700 tax listings throughout the county's 54 townships and boroughs. This represents complete property information for over 394,000 acres and 102,000 parcels of land.

During preliminary planning of the survey in 1955, Aero Service anticipated that deed records for approximately 83,000 properties would be searched, assembled, and plotted. They also indicated about 1,000 tax maps and 180,000 property index cards would be necessary to cover the county completely. But they had not foreseen the spectacular growth of industry and homes in the county.

After completion of the work recently, actual count showed 94,717 properties plotted, 1,343 tax maps compiled and 207,840 property cards prepared for the completely cross-indexed property record system. More than 600,000 pages of deed records and indices were also microfilmed during the program. In spite of this increased volume of work, Aero Service was able to cut $60,410 from the original $400,000 estimate.

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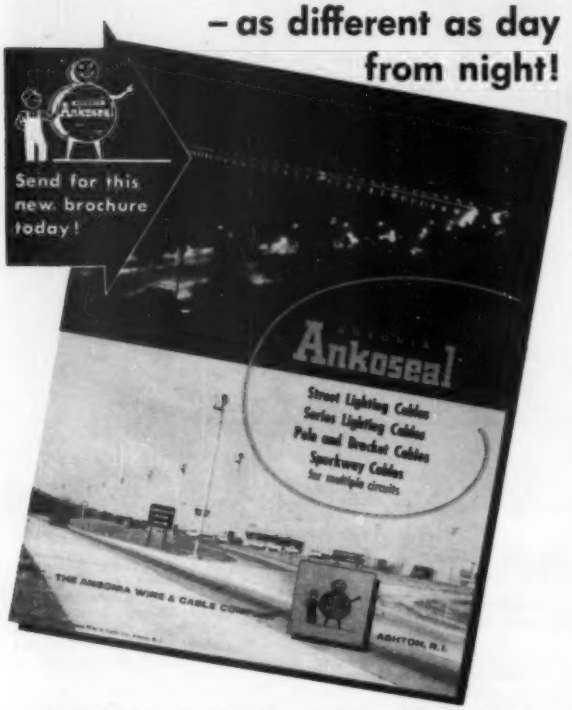

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Conventions — When & Where

Conventions listed this month for the first time are indicated by an asterisk (*)

Jan. 6-10—Washington, D. C.
HIGHWAY RESEARCH BOARD. Annual Convention (Sheraton-Park Hotel). Exec. Dir., Fred Burggraf, 2101 Constitution Ave., Washington, D. C.

Jan. 9-11—New York, N. Y.
NORTHEASTERN WEED CONTROL CONFERENCE. Annual Meeting (Hotel New Yorker). Exec. Sec., R. C. Sweeney, Regional Director of Public Health Engineering, New York State Department of Health, 21 North Broadway, White Plains, N. Y.

Jan. 20-23—Washington, D. C.
AMERICAN ROAD BUILDERS' ASSOCIATION. Annual Convention (Sheraton Park Hotel). Sec., Norman T. Almquist, 600 World Center Bldg., Washington, D. C.

Jan. 23-24—New York, N. Y.
NEW YORK SEWAGE AND INDUSTRIAL WASTES ASSOCIATION. Annual Meeting (Hotel Belmont Plaza). Exec. Sec., R. C. Sweeney, Regional Director of Public Health Engineering, New York State Department of Health, 21 North Broadway, White Plains, N. Y.

Jan. 29-31—Los Angeles, Calif.
CALIFORNIA STREET AND HIGHWAY CONFERENCE. Annual Meeting (UCLA Campus, Los Angeles and Hollywood Roosevelt Hotel, Hollywood). Exec. Sec., Bob Glenn, Engineer & Extension Rep., I.T.T.E., University of California, Berkeley, Calif.

Feb. 5-7—Indianapolis, Ind.
AMERICAN WATER WORKS ASSOCIATION—Indiana Section. Annual Meeting (Sheraton-Lincoln Hotel). Secretary, C. H. Canham, 3517 Manor Court, Indianapolis.

Feb. 10-12—New York, N. Y.
ASSOCIATION OF TOWNS OF THE STATE OF NEW YORK. Annual Meeting (Hotels Commodore and Roosevelt). Exec. Sec., Edward F. N. Uthe, 91 State St., Albany, N. Y.

Feb. 10-13—Dallas, Texas
ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC. Annual Convention (Statler-Hilton Hotel). Exec. Dir., James D. Marshall, 1227 Munsey Bldg., Washington 4, D. C.

Feb. 17-19—Montreal, Quebec
ASSOCIATION OF ASPHALT PAVING TECHNOLOGISTS. Annual Meeting (Sheraton Mt. Royal Hotel). Sec-Treas., Ward K. Parr, Box 376, Ann Arbor, Mich.

Feb. 25-28—Anaheim, Calif.
CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION. Annual Meeting (Disneyland Hotel). Sec., F. V. Frey, Room 108, City Hall, Pasadena, Calif.

***March 2-7—College Station, Texas**
TEXAS WATER AND SEWAGE WORKS ASSOCIATION. Annual Meeting (Memorial Student Center, A & M College). Sec., V. M. Ehlers, 2202 Indian Trail, Austin, Texas.

***March 12-14—Atlantic City, N. J.**
NEW JERSEY SEWAGE AND INDUSTRIAL WASTES ASSOCIATION. Annual Meeting (Traymore Hotel). Sec.-Treas., Michael S. Kachorsky, P. O. Box 68, Manville, N. J.

***March 12-14—Atlantic City, N. J.**
NEW JERSEY MOSQUITO EXTERMINATION ASSOCIATION. Annual Meeting (Haddon Hall Hotel). Sec., Bailey B. Pepper, c/o Agricultural Experiment Station, New Brunswick, N. J.

***March 12-14—Baton Rouge, La.**
SHORT COURSE FOR WATER AND SEWAGE PERSONNEL. Annual Course (Pleasant Hall, Louisiana State University). Exec. Sec., George West, Superintendent, Greater Lake Charles Water Company, Lake Charles, La.

***March 12-15—New Orleans, La.**
AMERICAN CONCRETE PIPE ASSOCIATION. 50th Anniversary Convention (Roosevelt Hotel). Managing Director, Howard F. Peckworth, 228 N. LaSalle St., Chicago 1, Ill.

March 12-14—Salina, Kans.
AMERICAN WATER WORKS ASSOCIATION—Kansas Section. Annual Meeting (Lamer Hotel). Sec., Harry W. Badley, Neptune Meter Co., 119 W. Cloud, Salina, Kans.

***March 13-15—Shreveport, La.**
LOUISIANA MUNICIPAL ASSOCIATION. Annual Meeting (Captain Shreve Hotel). Sec.-Treas., Gladys R. Hughes, 538 Reymond Bldg., Baton Rouge, La.

March 20-22—Missoula, Mont.
AMERICAN WATER WORKS ASSOCIATION—Montana Section. Annual Meeting (Florence Hotel). Sec., Arthur W. Clarkson, Asst. Director, Division of Environmental Sanitation, State Board of Health, Helena.

***March 20-22—Missoula, Mont.**
MONTANA SEWAGE WORKS ASSOCIATION. Annual Meeting (Florence Hotel). Sec.-Treas., Harvey W. Taylor, 910 Helena Ave., Helena, Mont.

March 23-25—Atlanta, Ga.
AMERICAN WATER WORKS ASSOCIATION—Southeastern Section. Annual Meeting (Dinkler Plaza Hotel). Sec., N. M. deJarnette, Division of Water Pollution Control, State Dept. of Health, 309 State Office Bldg., Atlanta, Ga.

March 23-26—New York, N. Y.
AMERICAN SOCIETY FOR PUBLIC ADMINISTRATION. Annual Conference (Hotel Statler). For information address John P. Keith, ASPA, 6042 Kimbark Ave., Chicago 37, Ill.

***March 24-26—Fayetteville, Ark.**
ARKANSAS WATER AND SEWAGE CONFERENCE. Annual Meeting. (For information address C. W. Oxford, Professor of Chemical Engineering, University of Arkansas, Fayetteville, Ark.

March 26-28—Schenectady, N. Y.
AMERICAN WATER WORKS ASSOCIATION—New York Section. Annual Meeting (Van Curler Hotel). Sec., Kimball Blanchard, Ludlow Valve Mfg. Co., Inc., 11 W. 42nd St., New York 36, N. Y.

March 26-28—Chicago, Ill.
AMERICAN WATER WORKS ASSOCIATION—Illinois Section. Annual Meeting (LaSalle Hotel). Sec., Dewey W. Johnson, Cast Iron Pipe Research Association, 3440 Prudential Plaza, Chicago, Ill.

***April 7-10—West Lafayetteville, Ind.**
PURDUE ROAD SCHOOL. Forty-fourth Annual Meeting (Purdue Memorial Union Building). For information address K. B. Woods, Head, School of Civil Engineering, Purdue University, Lafayette, Ind.

***April 16-18—Lincoln, Nebr.**
AMERICAN WATER WORKS ASSOCIATION—Nebraska Section. Annual Meeting (Cornhusker Hotel). Exec. Sec., Jere Ott, 2818 21st St., Columbus, Nebr.

April 20-25—Dallas, Texas
AMERICAN WATER WORKS ASSOCIATION. Annual Convention (Convention Hall). Sec., Harry E. Jordan, AWWA, 2 Park Avenue, New York 16, N. Y.

***May 6-8—Washington, D. C.**
NATIONAL HIGHWAY USERS CONFERENCE. Annual Meeting (Mayflower Hotel). Dir., Arthur C Butler, 966 National Press Bldg., Washington, D. C.

May 18-22—Washington, D. C.
AMERICAN SOCIETY OF PLANNING OFFICIALS, National Planning Conference (Statler Hotel). Exec. Dir., Dennis O'Harrow, ASPO, 1313 E. 60th St., Chicago 37, Ill.

Norfolk Projects A Civic Center

NORFOLK, Va., City Council is in the process of acquiring a site which will make possible the consolidation of all municipal offices in one location. The Civic Center is a part of a comprehensive master plan for the central business district which will place Norfolk in the forefront of American cities now engaged in the struggle against obsolescence and decay of their urban centers. The architects are the firms of Vincent G. Kling & Woodward Oliver & Smith.

Five buildings comprise the Civic Center—public safety offices and jail, municipal offices, police courts, corporation courts, and school administration offices. A sixth building is provided for power plant and maintenance. The public safety building (the first unit) is a long rectangular eight-story unit. The lower three office floors are separated from the upper four prison floors by a mechanical equipment story.

Implicit in the design of the Civic Center and its component elements are a number of innovations necessitated by present-day demands. The jail is neither a "fortress" nor a "lap of luxury." The outmoded practice of moving persons in custody to and from public buildings in full public view is here obviated by the separation of entrances and passageways. The dignity of the four courtrooms is retained, but without the formidable air that has been familiar in the past.

Building designs carefully resolve two problems characteristic of present-day air-conditioned "fishbowl" buildings: the outcropping of unsightly mechanical units on roofs, and the added load placed on air-handling equipment by broad exposures of sun-heated glass. Here, air-handling equipment is organized in trim penthouses that give added character to the building profiles. Off-white pre-cast stone panels provide an economical means of reducing heat gain and conserving air-conditioning; they become, at the same time, a major design element.

THOMAS F. MAXWELL
City Manager
Norfolk, Va.

Municipal and Civic Publications

Publications on these pages are available from the addresses indicated in each listing and are usually free unless a price is given

Saving Our Natural Resources

CONSERVATION—*By David Cushman Coyle, Rutgers University Press, 30 College Ave., New Brunswick, N. J. 284 pp. $5.*

A stirring story of the fight to conserve the nation's farmlands, forests, water supply, minerals. Enough time has elapsed to give the author a clear perspective on these important subjects. While this work deals only secondarily with municipal problems, city officials with an interest in conservation will find much of value.

Much to Do About Water

ON THE WATER FRONT—*The League of Women Voters of the United States, 1026 17th St., NW., Washington 6, D. C. Publication No. 242. May 1957. 20 pp. 25c.*

This booklet is an introduction to the administrative, legislative, and economic problems involved in water resources development. A discussion guide, glossary, and suggested readings are included.

Revised Reader in Urban Sociology

CITIES AND SOCIETY—*Edited by Paul K. Hatt and Albert J. Reiss, Jr. The Free Press, Glencoe, Ill. Revised Edition. 1957. 852 pp. $7.50.*

This revised reader in urban sociology (first published in 1951) contains 62 writings taken from various authoritative works published in this field by sociologists, economists, psychologists and other researchers.

In presenting the modern city in its social context, the book covers a wide range of topics that will have interest for the municipal officials who are seeking for an overall view of the complexities of today's urban society. Among the topics covered are: the growth of suburban areas; urbanization trends; population trends, redistribution, and family composition; institutions and organizations in the city; neighborhoods and child conduct; crime in the city; social characteristics of the urban dweller; Negroes in the city.

The material is organized under such major areas of study as: The Nature of the City; The Nature and Extent of Urbanization and Population Redistribution; The History of Urban Settlement; The Stratification Structure and Processes; The City As An Artifact.

CD Programs for Industrial and Governmental Facilities

REDUCING OUR VULNERABILITY TO ATTACK—*Report of the Office of Defense Mobilization to the Joint Committee on Defense Production. Executive Office of the President, Office of Defense Mobilization, Washington 25, D. C. 1957. 52 pp. Free as long as the supply lasts.*

This report is concerned primarily with the protection of industrial and governmental facilities against large-scale thermonuclear weapons. The report discusses the effects of the gains made through existing policies and programs regarding dispersion, continuity of government, protective construction, industrial defense, etc. It evaluates our current vulnerability to attack and analyzes the many programs now aimed at reducing this vulnerability to protect the economy as a deterrent to attack.

1957 Census of Government Reports

GOVERNMENTS IN THE UNITED STATES—1957 CENSUS OF GOVERNMENTS. U. S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS. *Vol. 1, No. 1. 1957. 52 pp. 40 cents. Available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., or the field offices of the Department of Commerce.*

While local government still suffers from a complexity of administrative divisions and subdivisions numerous enough to frighten the most ardent jig-saw puzzle fan, some hopeful progress in consolidation has taken place in recent years. For the total number of local governmental units has dropped a surprising 34% between 1942 and 1957. So reports the Bureau of the Census in this first completed report of its 1957 Census of Governments.

Today, some 102,328 municipalities, townships, special districts, counties and school districts make up the fragmented local governmental pattern of the country. Fifteen years ago, the number was over 155,000.

The drop came almost entirely in the number of school districts from 108,579 in 1942 to 50,446 now. Townships also suffered a decline, but incorporated municipalities, and special districts both registered increases.

Aside from the almost spectacular drop in school units, the most significant finding of the new survey is the widespread increase in special districts which jumped more than 75% since 1942. In the nation's urban areas special districts for fire protection, housing, cemeteries, water supply and parks, all at least doubled in number in the 15-year period. In the rural areas more than 2,000 new soil conservation districts were established since 1942.

Similarly, the survey shows that among municipalities more and more are falling into the higher population categories. Thus the proportion of localities in the 5,000-10,000 population category rose by 13%; those in the 10,000-25,000 category by 19%; and those in the 25,000-50,000 category by 19%, etc.

A Comprehensive Zoning Ordinance

SACRAMENTO COMPREHENSIVE ZONING ORDINANCE—*Ordinance No. 1963, fourth series. City Hall, Room 308, Sacramento, Calif. 65 pp. $1.*

PLANNING COMMISSION 1956-1957 ANNUAL REPORT, SACRAMENTO, CALIF.

In June 1956 the Sacramento City Council adopted a new comprehensive ordinance that would streamline the administration of the ordinance and reduce the work load of the planning commission so that the commission could concentrate more on general planning problems.

The 1956 ordinance incorporates a variety of novel features or "ideas", as Planning Director R. L. Rathfon describes it, some of which deal with variance procedures, amendments and rezonings. For example, spot zoning has been effectively curtailed by a provision requiring that in order for a property owner to apply for rezoning, the property in question must be situated adjacent to or across a street or alley from a less restrictive zone than that which is requested. The ordinance report is amply illustrated by a series of maps. Since Sacramento indicates success with its new zoning ordinance in streamlining administrative procedures, zoning officials of other cities and towns may find these "ideas" worth exploring.

Municipal Regulation of Civil Liberties—Court Cases

MUNICIPAL ACTION AND CIVIL LIBERTIES—*Prepared by law students of the University of Virginia, Charlottesville, Va. 1957. 86 pp.*

This study presents a survey of municipal regulations or prohibitory actions that have been challenged in courts as offenses against the three constitutionally guaranteed freedoms of speech, religion and assembly. Thus cases arising from the prosecution of offenses against regulations passed by municipal governments dealing with censorship of such items as comic books, phonograph records, burlesque, motion pictures, thought, actions and associations, etc., are discussed and analyzed in this study which was prepared by the Committee on Civil Liberties and Civil Rights of the American Bar Association. The project was financed by a grant to the law school of the University of Virginia from the Fund For The Republic. Cases arising from municipal regulations that affected the Jehovah Witnesses are analyzed and discussed. There are also some interesting cases here that touch on fluoridation of public water supply.

Picketing, racial discrimination, judicial interferences with internal affairs of churches are not discussed in this particular study. These issues have been eliminated from consideration because, as the authors put it, "they might better be dealt with on an extensive individual basis."

Financing the New York-New Jersey Metropolitan Transit Plan

METROPOLITAN RAPID TRANSIT FINANCING—*A Report to the Metropolitan Rapid Transit Survey of New Jersey and New York.—By William Miller, governmental consultant, 33 Palmer Square West, Princeton, N. J. 1957. 137 pp.*

This report is primarily concerned with the financing requirements of the metropolitan transit plan proposed for the New Jersey-New York Metropolitan Area (THE AMERICAN CITY, September 1957, p. 123). The plan calls for the creation of a bi-state District to assume control of the transit system, the operation of existing rail service and the construction of a bi-state loop. A fundamental consideration of this report is that the system would operate at a deficit and would require public aid.

Some of the financial considerations analyzed here are: the public financing of rapid transit, including the experience of other metropolitan regions; credit sources; revenues; form and cost of borrowing by a metropolitan agency; operation of rail services; apportionment of deficits among participating communities; and public utility regulation and tax exemption problems.

Master Plan Probes Business Area Needs

NORTH MARIN MASTER PLAN—*Marin County Planning Commission, 1711 Grand Ave., San Rafael, Calif. 1956. 92 pp.; maps. $2.60 plus 16 cents postage.*

This report has a particularly exhaustive analysis of future business area needs in the county. Data on effective power of residents are used to determine future business floor area needs and these are translated into land area requirements.

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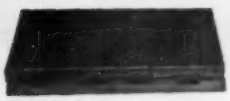

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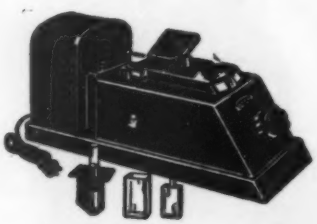

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A Descriptive Catalog of Regional Studies

REGIONAL STUDIES AT U. S. UNIVERSITIES—*A Survey of Regionally Oriented Research and Graduate Education Activities, organized by Harvey S. Perloff. Resources for the Future, Inc., 1145 19th St., NW, Washington 6, D. C.* 1957. 118 *pp. Single copies free; additional copies, 50 cents each.*

Here is a descriptive bibliography of regional studies (education, research, and seminar programs) undertaken by universities and colleges throughout the country. What has been assembled represents a large, but by no means complete, representation of the education and research work in the field. (Some 172 colleges were in the survey with 85% responding).

Two sections that are especially recommended for the reader's attention are: (1) the listing under Metropolitan Studies and Metropolitan Planning, which occupies over 40 pages; and (2) the listing dealing with Methods and Techniques of Regional Analysis.

Technical Planning Reports—Residential, Commercial and Industrial

Technical reports prepared by the Long Range Division of Detroit City Plan Commission, 8th Floor, City-County Bldg., 400 Woodward Ave., Detroit 26, Mich. $3 each.

RESIDENTIAL REDEVELOPMENT. *Report No. 1.* 67 *pp.* 6 *maps.* 22 *tables.*

A reissue of a 1954 report describing the selection of areas for redevelopment, the determination of degrees of blight, and the assignment of priorities for redevelopment.

COMMERCIAL DEVELOPMENT. *Report No. 2.* 120 *pp.* 48 *maps.* 20 *tables.*

A survey of Detroit's existing major shopping centers other than the Central Business District, a determination of their future importance, and some suggestions for their improvement so that they may successfully compete.

INDUSTRIAL RENEWAL. *Report No. 3.* 41 *pp.* 6 *maps.* 3 *tables.* 7 *pp. of illustrations.*

A comparative study of the tendency towards obsolescence and deterioration in major industrial areas in Detroit. It ranks industrial areas according to degree of blight.

Information on Federal Aids for Community Development

FEDERAL PROGRAMS FOR COMMUNITY ASSISTANCE—*U. S. Department of Commerce Office of Area Development, Washington 25, D. C. Revised.* 1957. 12 *pp.* 15 *cents. Also available at the U. S. Department of Commerce field offices.*

For the cities around the country that have special problems associated with chronic unemployment, the Office of Area Development has published this report, outlining various federal programs which provide specific assistance for community and employment development. The following information is provided: (1) the name of each department providing assistance together with the names of subsidiary offices or bureaus having jurisdiction over particular programs; (2) a brief description of the nature and purposes of the programs as applied to the areas of labor surplus and the names and addresses of regional or branch offices where information in greater detail is available; and (3) titles of available publications and printed material which provide fuller descriptive information.

Series on City Manager Profession

Publications in the Series on The City Manager Profession—International City Managers' Association, 1313 East 60th St., Chicago 37, Ill. $2 each.

CITY MANAGEMENT—A GROWING PROFESSION. 1957. 84 *pp.*

City managers have long been interested not only in on-the-job training for themselves but also in training for young persons who intend to enter the profession. It was for this reason that the ICMA appointed the Committee on Professional Training to make this report. Intended to give a background of understanding about the profession for the prospective city manager, the report will also give the manager and especially the newcomer, a perspective of how the profession has originated and developed. The thesis of the report is that top management is especially suited to a career service at all levels of government. The appendix, listing 41 universities and colleges offering graduate training in public administration, provides a guide to graduate schools for persons planning on a career in city management.

TRENDS IN SALARIES OF CITY MANAGERS. 1957. 42 *pp.*

This report is intended to aid both the city manager and the city council in establishing a basis for manager compensation. Based on information from 889 city managers, the report presents information on salaries, working conditions, and fringe benefits for city managers and suggests the factors to be considered by city councils in setting their managers' salaries.

Other Reports Received

Administration & Government

PHILADELPHIA, PA.—1956 Annual Report of the City Representative and Department of Commerce.

WEST VIRGINIA—Manual of West Virginia Municipal Government. By Eugene R. Elkins and Todd H. Bullard. Bureau For Government Research, West Virginia University, Morgantown. 1957. 65 pp.

Finance & Taxation

CHICAGO, ILL.—Budget Recommendations for the Year 1958. Prepared by the Office of the Comptroller. 404 pp.

Public Works

NEWTON, MASS.—1956 Annual Report of the Public Works Department.

RALEIGH, N. C.—1956-1957 Annual Report of the Department of Public Works.

Water

GENERAL—Municipal Water Facilities—Communities of 25,000 Population and Over, as of December 31, 1956. A cooperative state-federal report prepared by the Public Health Service, U. S. Department of Health, Education and Welfare, Washington, D. C. 1957. 163 pp.

LONG BEACH, CALIF.—1956-1957 Annual Report of the Water Department.

MONTANA—Inventory of Municipal and Industrial Waste Facilities. A cooperative state-federal report prepared by the Public Health Service, U. S. Department of Health, Education, and Welfare.

Special analysis Moly alloy steel, mill rolled to uniform gauge. Heat treated to 460-512 Brinnell hardness and tensile strength of 200,000-275,000 p.s.i. Selected XX White Ash handles. Patented steel I-beam reinforcement stops handle breakage. Fully finished. Uniform quality 12 to the dozen. Workers like them for perfect hang, balance and finish . . . and they last 2 to 3 times as long as others.

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Look at the low profile of this small Parsons 155 Trenchliner! It's a new size — developed especially for city digging. Height is only 7 feet-4 inches for working under trees, overhanging branches, and other overhead obstructions where larger trenchers can't go. Width over crawlers is only 5 feet-4 inches for operating between buildings, in narrow alleys. Power-shift conveyor avoids side obstructions, places spoil bank on either side of trench.

Digs trench 10 feet deep

For all its compactness and maneuverability, this utility-size 155 has plenty of work capacity. It digs 16 to 26 inches wide, at depths to 10 feet — produces from 5.8 inches to 25 feet of trench per minute. Low speeds let the 155 "inch" its way past cross-pipes, and other obstructions typical of city digging. High speeds give maximum feet per minute on clear right-of-way.

Sloping ladder-boom has positive down-crowd — starts cut fast, holds accurate grade. It undercuts walks, curbs, gutters — makes vertical set-ins flush with walls, existing mains. Heavy-duty 155 also has: cast-steel buckets, "Tap-In" teeth, tractor-type crawlers with 16-in. grouser treads, or 12-in. flat shoes. Call Parsons distributor today for complete facts, or write for bulletin.

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Where to Purchase

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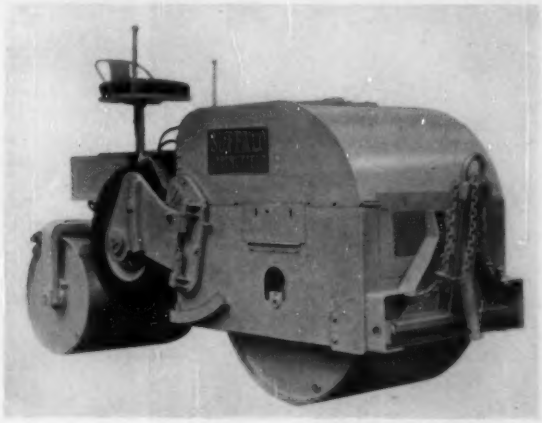
Tandem Roller Gets Retractable Towing Wheels



Model KT-8 has "fold-away" wheel feature.

Street construction and maintenance men should appreciate the hydraulically-operated transporting wheels and special "fold away" feature of this new 4-6 ton tandem roller. Called the Buffalo-Springfield Model KT-8, the portable machine boasts an entirely new concept in the retractability of towing wheels. When the wheels are not in use, they are raised hydraulically and folded into the sides of the main frame. This eliminates the usual overhang of transporting wheels, and provides increased operator visibility.

Because of the "fold away" wheel feature, the portable tandem roller can be worked adjacent to obstructions, high curbs and forms without removing the wheels. The design also permits the advantage of exceptionally high ground clearance.

In addition to the Model KT-8, Buffalo-Springfield also offers a new 3-5 ton Model KT-7A tandem roller. This machine is of the same basic design as the Model KT-8, except it does not include the hydraulically-operated towing wheel arrangement. A towing attachment is available as optional equipment.

Further details on the new tandem rollers are available from BUFFALO-SPRINGFIELD ROLLER CO., DIVISION OF KOEHRING CO., SPRINGFIELD, OHIO. Write directly to the manufacturer or you may use the Post Card located for your convenience on the insert following Page 50. Circle No. 917.

Power Loader for IH Utility Tractors

A new front-mounted power loader for use on International 330, 300 and 350 utility tractors, is announced by the International Harvester Co. Known as the McCormick U-34B power loader, it can be powered either by the tractor's Hydra-Touch hydraulic system or with a special large-capacity front-mounted hydraulic pump.

A variety of interchangeable attachments adapts the new loader to many municipal loading, lifting, grading, and material-moving jobs. These include a standard nine-cubic-foot material bucket for handling sand, gravel, coal, dirt and snow; a 6-tine fork for moving hard-to-handle materials; and a tine cover that converts the fork into a nine-cubic-foot material bucket. A crane attachment, and a 7-foot leveling and grader blade can also be used on the loader booms.

Additional details on the new power loader may be obtained from INTERNATIONAL HARVESTER CO., 180 N. MICHIGAN AVE., CHICAGO 1, ILL. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 924.

Hamilton Kent in Canada

Designers and builders of sewerage and drainage projects in Canada will get faster service on Tylox and Rexon rubber gaskets, as a result of Hamilton Kent of Canada, Ltd., a new plant recently established at No. 10 Brussels St., New Toronto, Ontario. The plant is a totally owned subsidiary of Hamilton Kent Mfg. Co., Kent, Ohio.

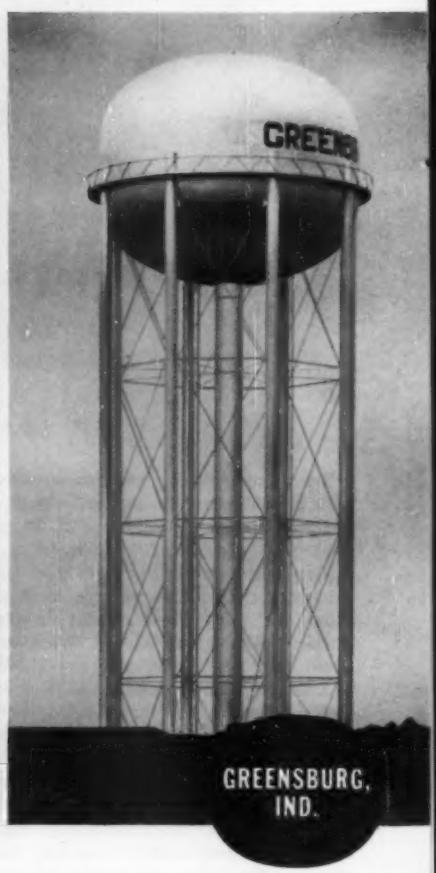
T. S. Rowe, president of Hamilton Kent, has appointed John D. Falso general manager of the Canadian subsidiary. Dale Foland has been appointed plant manager. When in full production, the plant is expected to produce about 3,000 gaskets daily.

New Storage Facilities for Rock Salt

The International Salt Co., Inc., Scranton, Pa., has opened three new rock salt storage facilities in the Midwest. They are located in Milwaukee, Wis., Dubuque, Ia., and Pekin, Ill.

The new facilities will supply Sterling rock salt to a 4-state area, including Illinois, Iowa, Minnesota, and Wisconsin. They will augment International's present midwestern salt warehouses in Chicago, Duluth and St. Louis.

50,000 Gallons **150,000 Gallons** **500,000 Gallons**



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Mixermobile Manufacturers, Inc., announces the addition of a 1½-cubic-yard unit to its line of Scoopmobile loaders. The bucket on this new loader clears a path the full width of the wheels, eliminating damage to tires. Four-wheel planetary drive provides power to spare. Other features include full visibility, power steering, power shift forward and reverse transmission, and 4-wheel power brakes.

The new Scoopmobile is available with either gas or diesel engine. It is fully described in literature from MIXERMOBILE MANUFACTURERS, INC., P. O. BOX 7527, PORTLAND, ORE. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 927.

Bucket clears a path full width of the wheels.

Effective Pest Control

Geigy Agricultural Chemicals offers to pest control officers outstanding control of cockroaches, brown dog ticks, ants, fleas, silverfish, flies and other insect pests through the use of an organic phosphorous compound named Diazinon. Almost two years of use by pest control officers has proved its value as an effective, economical control of pests in the home, hotels, restaurants, institutions, and municipal and recreational areas.

Diazinon's long lasting residual action makes it particularly effective in combatting roaches and other insects in trash or garbage dumps. In addition to controlling adult flies, Diazinon kills fly maggots on contact, thus doubly attacking the fly life cycle. It is relatively safe to humans in comparison with the highly toxic organic phosphate insecticides.

Diazinon is commercially available as an emulsified solution, wettable powder or an oil solution. For more information, write directly to GEIGY AGRICULTURAL CHEMICALS, SAW MILL RIVER RD., ARDSLEY, N. Y., or you may use the Post Card on the insert following Page 50. Circle No. 900.

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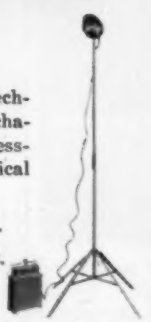
- Heavy-duty time-proven flasher mechanism. Electromagnetic pulse mechanism in Escolite has been used successfully for 20 years in other electrical control products.
- Heavy-duty neophrene sealed case.
- Complete line of flasher equipment. Transistorized lights available.



Write for literature and prices. Distributorships available.

ELECTRONIC SPECIALTIES COMPANY
BATAVIA 10, ILLINOIS

Lift Snow Plows . . . automatically!

Battery Operated or Fan-Belt Driven Models

MONARCH POWER HYDRAULIC CONTROLS

Lift or lower your snow plow automatically . . . with Monarch Power Hydraulic Controls. One man operates the plow right from the truck or jeep cab. Snow removal is faster, easier and more efficient. See your dealer or write for full details.

MONARCH ROAD MACHINERY COMPANY
1331 MICHIGAN ST., N. E.—GRAND RAPIDS 3, MICHIGAN

Onan ELECTRIC PLANTS

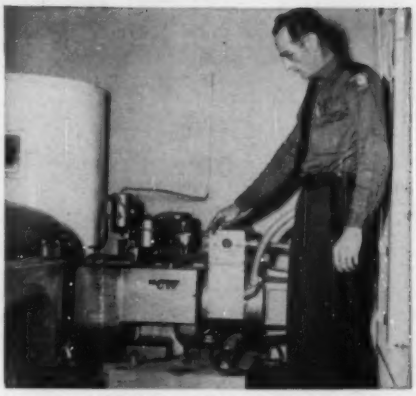
ELECTRIC PLANT NEWS

Onan ELECTRIC PLANTS

Police and fire departments are assured power

Onan 10KW Emergency Electric Plant protects community building

Among the many modern features of the new community building in Indian Hill, Ohio, is *insurance against power interruptions.* When disasters knock out highline power, the Onan Electric Plant starts automatically and supplies all the electricity needed for police and fire departments. Provides current for lights, radio and other electrical equipment. Allows vital municipal services to operate normally, *protecting the community.*



The Onan 10KW, Series "CW" standby plant at Indian Hill is powered by a 4-cycle, 2-cylinder, air-cooled engine. It is equipped with Vacu-Flo cooling which allows installation in a closed room or small compartment.

Check Onan quality and low prices before you buy an electric plant for any purpose.

A.C. Models: 500 to 75,000 watts. Also D.C. and Battery Charging units.

Write for folder on standby and portable models

D. W. ONAN & SONS INC.

Onan ELECTRIC PLANTS

2554A University Ave. S. E., Minneapolis 14, Minnesota

ELECTRIC PLANTS • AIR-COOLED ENGINES • GENERATORS • KAB KOOLER

TWO PIECE

sliding or screw type cast iron valve boxes for covering 4" thru 10" valves for water or gas. Rugged construction for lifetime service. 5¼" shaft. Extensions as required.

Adjustable

VALVE BOXES

THREE PIECE

valve boxes supplied with separate bases are available in sliding or screw type. Made with 5¼" and 7" shafts with extensions as required. Complete line of service and roadway boxes.

ALABAMA PIPE CO.

We Invite Inquiries to Our Nearest Sales Office

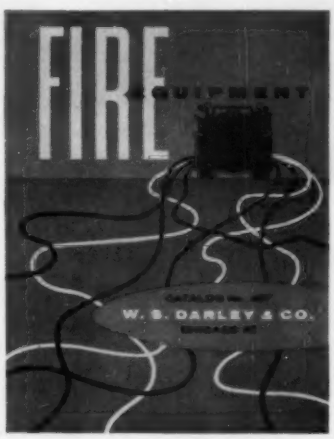
120 S. Michigan Ave. Chicago, Illinois / 350 Fifth Avenue New York 1, New York

General Sales Offices

ANNISTON, ALABAMA

APCO

NEW CATALOG!



WRITE TODAY FOR 100-PAGE FIRE EQUIPMENT CATALOG

SPECIFY YOUR TITLE ON YOUR REQUEST

W. S. DARLEY & CO.

CHICAGO 12

Purchasing

New "Full-Color" Safe-T-Cones

Poly-Cones are now in production at the RADIATOR SPECIALTY CO., CHARLOTTE, N. C.

Brilliant color is "kneaded" right into the basic components of these durable traffic markers, making them "full-color" for life, without peeling or cracking of paint. Poly-Cones never need repainting. Traffic film, dirt and grime can simply be washed off with soap and water.

George Einhart, advertising manager of Radiator Specialty, advises us that these new road markers are specially molded

Cones are designed to "nest" together, requiring a minimum of storage space.

of Poly-vinyl chloride, a tough, plastic-type substance that remains pliable, yet is nearly twice as durable as rubber cones. They will not crack or tear even when run over by the heaviest trucks or buses.

High-production and quality is assured with new, improved manufacturing methods and equipment. They are available either all yellow or with brilliant fluorescent color for extra visibility.

These new cones are specially designed to "nest" together, taking up less storage space. Special design in the top of the cone enables it to hold a standard Safe-T-Sign, flasher light or flag adaptor.

Safe-T-Cones are now in use in cities and towns all over America, for directing traffic line painting, emergency barricades and traffic channeling, as well as by industrial plants, parking lots, public utility companies and schools.

Detailed information may be obtained directly from the manufacturer, or you may use the Post Card on the insert following Page 50. Circle No. 907.

Waste Receptacles That Won't Corrode

Double corrosion resistance is provided on these Bennett Bilt closed drop-in waste receptacles by their chrome-plated finish and phosphate treatment over chemically-cleaned, heavy-guage steel. This chrome-plated finish is easily cleaned with a wipe of a cloth. Extra heavy plating assures long life and attractive appearance.

The self-closing, overlapping top door of the new receptacle closes with silent spring action. Depositing refuse is so easy, that city streets are kept neat and clean almost automatically.

The round design of the closed drop-in model provides all-around accessibility. The units are fire resistant, and have a round galvanized liner with full swing handle for fast emptying.

More detailed information on the new waste receptacle may be obtained from THE BENNETT MFG. CO., ALDEN, N. Y. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 920.

Emergency Traffic Barricade

The patented Rode-Blok shown here is a temporary traffic barricade that extends nine feet across a roadway and is easily erected at the scene of an emergency in less than one minute. Carried in the trunk of a police cruiser, it is instantly available when needed.

As shown, the word "STOP" is swiftly changed to "CAUTION" by inserting a plaque into a frame on the face of the first section of the cross-member. A large printed "ARROW" on the reverse of the "CAUTION" plaque may be used to detour traffic in either direction. Thus, four different warning signals may be selected.

All surfaces that face approaching traffic are skillfully reflected, and an ingenious provision for mounted fuses renders the Rode-Blok equally effective in daylight and darkness. It is visible at night up to 1,500 feet. Collapsed, it fits into a sturdy case measuring 5 x 8 x 39½ inches. The kit weighs less than 30 pounds.

For descriptive literature, write directly to the RODE-BLOK CORP., 613 S. RAMPART ST., NEW ORLEANS 12, LA., or you may use the Post Card on the insert following Page 50. Circle No. 903.

HI-RANGER
IS FOR YOU IF YOU . . .

- *perform maintenance work at heights (or reaches) from 20′ to 100′.*
- *keep utility installations humming!*
- *maintain parks, streets, orchards, tree farms!*
- *function with a limited staff of workers!*
- *operate with maximum safety . . . specify only the best service equipment!*

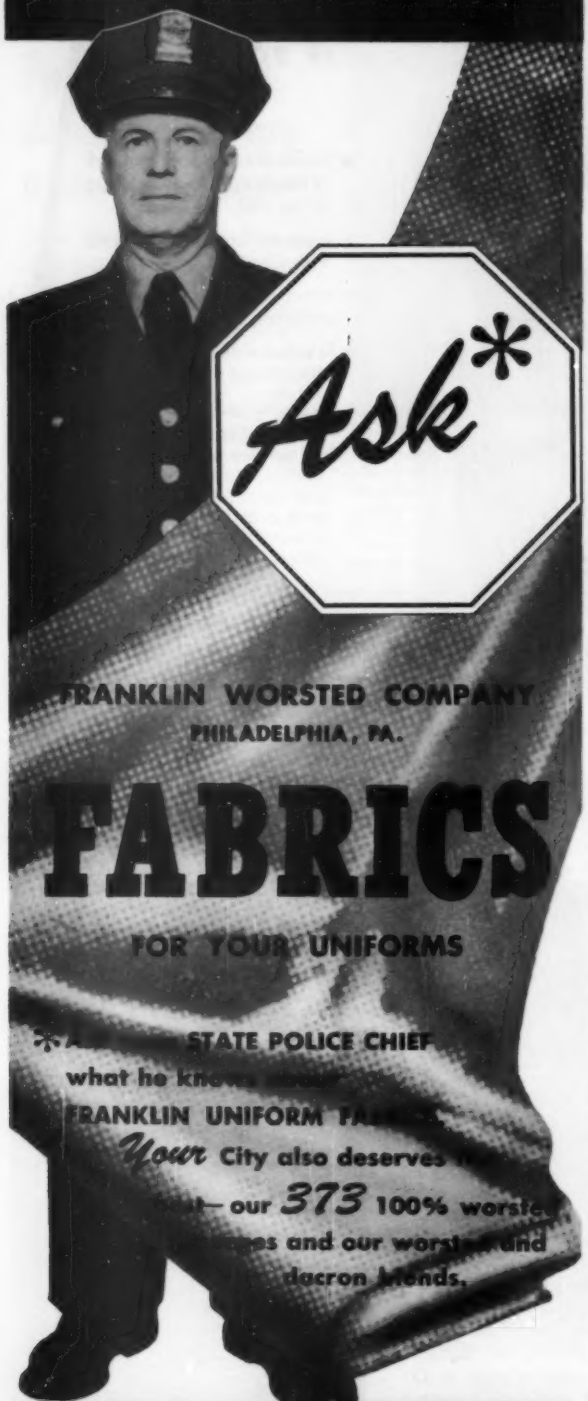
ONLY HI-RANGER EXTENSIBLE PERSONNEL PLATFORMS GIVE YOU ALL THESE FEATURES

- Famous single-handle 3-D control operates upper and lower booms, turntable simultaneously. (Pioneered and developed by M.A.T.).
- Advanced accumulator hydraulic system provides all power for control, operation of Hi-Ranger and M.A.T. accessories.
- All-hydraulic chain saw, limb-lopper.
- Tubular booms to 55′; fabricated booms to 100′.
- Unequalled "Fail Safe" features imparted by pilot check valves, "Dead Man" switch, two separate leveling systems, original M.A.T. insulation methods, load safety factor of 600%.

Send Hi-Ranger Literature to -

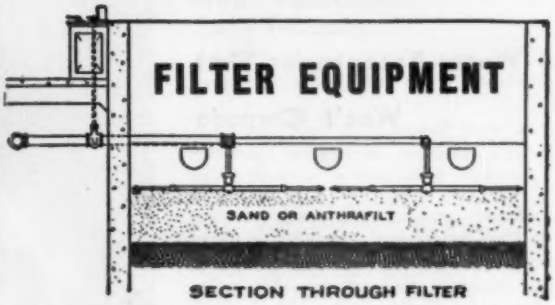
MOBILE AERIAL TOWERS, Inc.
1730 North Harrison Street
FORT WAYNE, INDIANA

FRANKLIN FABRICS



David E. Singer, Sales Agent
FRANKLIN WORSTED COMPANY
40 East 34th. Street, New York 16, N.Y.

PALMER



SECTION THROUGH FILTER

Filter Bed Agitator Advantages

- Requires an average of 40% less wash water
- Eliminates mud balls
- Prevents cracking and shrinking of the beds
- Produces "new" sand after short period of normal operation
- Enables you to increase filter runs up to 50%

Anthrafilt Advantages

- Doubles the length of filter runs attainable with sand and quartz media
- Requires one-half as much wash water
- Filters are out of service less because of the shorter wash cycle
- Coating, caking or balling with mud, lime, iron or manganese reduced to the minimum

Write for Circular

PALMER FILTER EQUIPMENT CO.
P. O. BOX 1655, ERIE, PA.

Baseball bats don't pour out of a hose

●

But they're lifted out by a Hayward bucket, as are also sticks and stones. Thirty basins a day is a good average day's work.

●

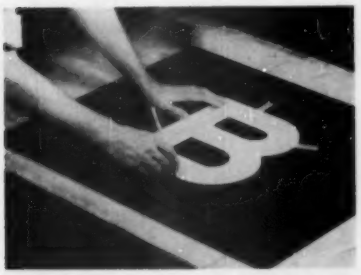
Hundreds of cities are doing it with Haywards.

Write for Bulletin

THE HAYWARD COMPANY
50 Church Street, New York 7, N. Y.

Signal Letters 500 Times Brighter

Minnesota Mining and Mfg. Co. offers signal letters from 18 to 24 inches high, including numerals, arrows, borders, periods and hyphens. They are made of



"Scotchlite" brand reflective sheeting covered with a rigid, transparent plastic sheet and backed with a flexible plastic film.

The bright reflection is said to provide excellent target value and legibility, even in semi-lighted areas such as illuminated expressways. The reflective letters are attached with white aluminum clips riveted to the sign background. This method leaves a space between the letter and the sign for drainage of water and dirt.

Stock sizes are 8-, 10-, 12-, 15-, 18- and 24-inch high letters. Markings are available on special order.

For all the details, write MINNESOTA MINING AND MFG. CO., 900 BUSH ST., ST. PAUL 6, MINN., or you may use the Post Card on the insert following Page 50. Circle No. 905.

Pipe Linings Becomes Division of American Pipe & Construction

Robert V. Edwards, president of American Pipe and Construction and Pipe Linings, Inc., 2414 E. 223rd St., Wilmington, Calif., announces that on December 1, 1957, the company became the Pipe Linings Division of the American Pipe and Construction Co. The change, reports Mr. Edwards, is expected to provide improved service for customers. Management and personnel will remain the same.

Dresser, Gardner-Denver Merger Dropped

Merger negotiations between Dresser Industries, Inc., Dallas 21, Tex., and the Gardner-Denver Co., Quincy, Ill., have been terminated, according to H. N. Mallon, chairman of Dresser. Mr. Mallon cited differences in management philosophy as the reason for disagreement between the two companies.

Send a TRUCKSTER® instead of a Truck!

Cushman® 780

World famous for economy

Garbage collection is only one of many areas of municipal service where substantial savings are currently being made through the use of a Cushman 780 Truckster as a replacement for, or auxiliary to, a conventional truck.

Other municipal jobs which the 780 Truckster handles with maximum efficiency and economy include street cleaning and light maintenance; parking control and parking meter service; golf course maintenance; hauling of supplies; and as a service vehicle.

Ruggedly built and driven by the powerful Cushman Husky 4-cycle engine, the 780 Truckster handles an 800 pound payload with ease. It not only operates at a cost of less than a penny per mile, but requires a minimum of maintenance expense; and, in many instances, saves man-hours by converting a "walking" job into a "riding" job.

The 780 Truckster is available with fiber glass cab and side curtains as optional equipment, and in a variety of body styles to fit specific needs. Electric starter is also available.

Ask your dealer for FREE demonstration or write for complete details on how the 780 Truckster can serve your city.

SOLD AND SERVICED NATIONALLY
Replacement parts available immediately

CUSHMAN MOTOR WORKS, INC.
A subsidiary of Outboard Marine Corporation
943 No. 21st, Lincoln, Nebr.

Please send complete information on 780 Truckster

NAME _____
ADDRESS _____
CITY _____ STATE _____

Trenching 7 miles of street, this Jaeger "125" Roto ran two 80 lb. breakers to line-cut and break a 7" top of asphalt over brick—averaged 1200 sq. ft. per 8 hr. day—used only 1½ gals. of fuel per hr.

Jaeger "125" Rotary speeds street work

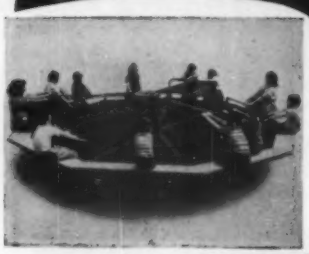
Jaeger Rotary "600"

Instantaneous air delivery, under close and smoothly modulated control, enables the Roto 125 to maintain 100 lbs. minimum pressure under all demands up to 125 cfm. High efficiency results in slower speed operation, less fuel consumption, longer engine life than any other rotary. See your Jaeger distributor or ask for Catalog JCR5.

THE JAEGER MACHINE COMPANY 505 Dublin Ave., Columbus 16, Ohio

LOADER • PUMPS • MIXERS • TRUCK MIXERS • PAVING MACHINES

Designed in Cooperation with Recognized Authorities on Play Guidance and Physical Education



Game-time UNCONDITIONALLY WARRANTED

PLAYGROUND SCHOOL • PARK • POOL EQUIPMENT

Easier to Install — Stronger — Safer

Planning and layout service. WRITE FOR CATALOG

Game-time, inc.

204 Jonesville Road
Litchfield, Michigan

Wholly owned subsidiary of Simpson Mfg. Co.

BEST SELECTION COIN EQUIPMENT

Write for our new enlarged catalog—the best reference for Coin Handling Equipment and Supplies.

ABBOTT

COIN COUNTER COMPANY

144th St. and Wales Avenue
New York 54, N. Y.
LUdlow 5-1200

Purchasing

Sweeps Congested Areas Quickly, Easily

Use this new walk-behind power sweeper on parking lots and in other congested areas. The compact machine has a powerful vacuum system, and is designed to sweep a 32-inch path. A high-speed 11-inch fan sucks light dirt and dust into a

1,900-square-inch fabric bag. Heavy litter is picked up by the main brush and thrown into a removable hopper.

The new sweeper, Model 40, weighs 275 pounds, and is only 33 inches wide, making it easy to handle. A "full-floating" main brush follows floor contours and has a pressure adjustment for heavy soilage areas.

The Model 40 is powered by a 1-cylinder, 4-hp air-cooled engine. It is fully described in literature from G. H. TENNANT CO., 721 N. LILAC DRIVE, MINNEAPOLIS 22, MINN. Write directly, or you may use the Post Card on insert following Page 50. Circle No. 918.

Corrosion-Proof Filter for Swimming Pools

A new type filter is offered for use in municipal swimming pool installations. Called the Cryst-L-Clear diatomite vacuum filter, it utilizes glass reinforced plastic, assuring virtually maintenance-free operation for the life of the filter.

According to Proportioneers, Inc., everything from the filter tank to the filtering elements is impervious to attack from water-treating chemicals and aggressive waters. No protective liners or paint maintenance are required.

The vacuum type filtering unit is of open-top design. All elements, baffles and

mechanical parts are fully visible and accessible for inspection or cleaning. The diatomite filtering system produces a sparkling clear and inviting pool water.

A full line of models is offered, ranging from filters for small pools to units sized for the largest municipal pools. For full details, write PROPORTIONEERS, INC., division of B-I-F INDUSTRIES, INC., 345 HARRIS AVE., PROVIDENCE 1, R. I., or you may use the Post Card on the insert following Page 50. Circle No. 925.

Light Trenching Machine

Use your lightweight Model M Ditch Witch for water and gas service lines, cathodic protection for pipelines, sprinkler systems for lawns, golf courses and parks, and many other municipal trenching operations. The efficient unit will dig a trench

up to four feet deep and six inches wide. The machine has been furnished to dig as deep as five feet in areas where digging conditions are suitable.

The Model M is powered by a 9.2 hp AENL Wisconsin air-cooled engine. It has three digging and road speeds and reverse. The machine may also be trailed behind a car at speeds up to 25 mph.

Additional details on the new Ditch Witch trencher may be obtained from THE CHARLES MACHINE WORKS, INC., 617 B ST., PERRY, OKLA. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 929.

New Officers Appointed by Seaman-Andwall

John W. Spoor has been appointed vice-president and director of sales for the Seaman-Andwall Corp., Milwaukee, Wis., a division of American-Marietta Co. He will be responsible for sales, distribution and merchandising of all Seaman-Andwall product lines. Serving under him will be Joseph F. Cavanaugh, manager of merchandising and advertising; James G. Morris, manager of industrial sales; Lacy Crolius, manager of agricultural sales, and John Lees, manager of manufacturers sales.

K. C. Andersen, president of the division, also announces the election of Jack E. Davis as vice-president in charge of operations, and Michael D'Amato as vice-president in charge of engineering. W. D. Murphy, executive vice-president, and Jack E. Bohrman, vice-president in charge of manufacturing, will continue to serve in their same executive positions.

According to Mr. Andersen, "These executive moves are designed to strengthen and expand our management structure and to insure the continued growth of the firm. Greater emphasis in our sales-merchandising division will enable us to take advantage of the market potentials offered by new products added to our original line of equipment."

Seaman-Andwall manufactures road construction, agricultural machinery, and large-diameter sprockets and gears at its Milwaukee facilities.

"THE READING PUBLIC"

Tacoma, growing rapidly in the Pacific Northwest, encourages its citizens to read. The handsome new library recently completed ($1,400,000) symbolizes the pleasant life in this thriving Western community. Easy to read, also, are the *FERRO* porcelain enamel street signs with which Tacoma plainly marks its streets.

In many interesting locations you'll find *FERRO* signs . . . visible by day or by night; permanent porcelain enamel fused on finest steel. Fully embossed.

***FERRO* signs are manufactured by Ferro Enameling Company, only in its own factory. Processing, embossing and porcelain enameling are carefully and completely performed under one roof, to produce an entirely reliable and uniform sign.**

On any street, road or highway, *FERRO is the sign of good government.*

FREE BOOKLET

There are centuries of difference between genuine *porcelain enamel* and "baked," "paint" or other substitute "enamels." *Genuine porcelain enamel* lasts for centuries; won't "weather," won't fade. Get the facts. Write for free illustrated leaflet and with complete details. TODAY, fill in the coupon, paste on a postcard and mail.

FERRO ENAMELING COMPANY

Member: Porcelain Enamel Institute

1100 FIFTY-SEVENTH AVENUE
OAKLAND 21, CALIFORNIA

Please send me free leaflet and other information about your porcelain enamel signs.

*Name*_____

*Title*_____

*Office or Dept.*_____

*Street*_____

*City*_____ *Zone*____ *State*____

KOHLER ELECTRIC PLANTS

Make jobs easier with portable power

Model 1.5M25, 1500 watts, 115 volt AC with cart. Manual starting. 2500 watt AC models also available.

Jobs move faster with a compact Kohler electric plant to operate hedge trimmers, chain saws, grass shears, carpenters' saws, drills, electric spades, pipe threaders and cutters.

The Kohler line includes models for trucks, street repairs, police and fire departments, civil defense. Automatic stand-by plants for use when central station power fails. Sizes from 500 watts to 50 KW, gasoline; 10KW to 50 KW, diesel. Write for folder A-20.

KOHLER CO. *Established 1873* KOHLER, WIS.

Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings
Electric Plants • Air-cooled Engines • Precision Controls

KOHLER OF KOHLER

GUNITE
The Modern Way...

for Repairing, Constructing, Lining:

- Reservoirs
- Dams
- Filter Plants
- Tanks
- Sewage Disposal Plants
- Stadiums
- Bridges
- Sea Walls
- Swimming Pools

Write for more information, including 48 page "Gunite" booklet.

PRESSURE Concrete Co.
FLORENCE, ALA.
315 So. Court Street

Liberty Life Bldg. CHARLOTTE, N. C.
33 N. LaSalle Street CHICAGO, ILL.
193 Emmet Street NEWARK 5, N. J.

Purchasing

Brings Quick Death to Flies, Mosquitoes

Fast, effective control of flies and mosquitoes can be gained over large metropolitan areas by Roto-mist spraying of waste collection areas, along alleys, and in industrial sections—and by periodic spraying of bushes and trees along streets and park-

ways. The John Bean Rotomist is economical to operate. With minimum moving of the unit, large areas can be sprayed quickly and thoroughly.

The Rotomist is an ideal unit for effective shade-tree spraying. Ample air volume allows excellent control of spray pattern at heights up to 125 feet. Full 110° vertical pivoting of the discharge head to 20° below horizontal provides thorough coverage of ground-level foliage as well as the highest trees.

More detailed information on the economical Rotomist may be obtained from JOHN BEAN DIVISION, FOOD MACHINERY & CHEMICAL CORP., LANSING, MICH. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 926.

Motorola Builds Larger Dallas Quarters

Edward L. Falls, Jr., area manager for Motorola Communications & Electronics, Inc., 4501 W. Augusta Blvd., Chicago 51, Ill., announces the construction of a new Dallas (Tex.) administrative headquarters for the company's 10-state southern sales area. The 12,000-square-foot building will house a 2-way radio sales office, an expanded Motorola parts depot and a microwave and industrial control sales office, as well as the administrative office of the southern area.

Sturdy Sign Spans

Florida's new Sunshine State Parkway, now completed for 110 miles from Miami to Fort Pierce, features sign spans by PFAFF & KENDALL, 84 FOUNDRY ST., NEWARK 5, N. J. These spans were quickly and easily erected, with minimum disturbance to traffic.

Pfaff & Kendall aluminum sign spans will not rust, never need painting, and require virtually no maintenance. A 45-foot span covers two full traffic lanes, plus the service shoulders for each lane, and is capable of withstanding heavy winds. Standard spans are available in lengths up to 100 feet. Special design spans, 140 feet long, with no middle support, spanning ten full lanes of traffic have already been erected.

Detailed information on these sturdy sign spans are available directly from the manufacturer, or you may use the Post Card that is located for your convenience on the insert following Page 50. Circle No. 902.

ORDER ONE
for EVERY Service Car!
SAVE MONEY, TIME, CALL-BACKS!
The Amazing AQUA VALVE BOX LOCATOR
$29.50 F.O.B. Cin., Ohio
Your Name In Gold FREE!
SURE LOCATIONS EVERY TIME!
• NO WIRES, BATTERIES or SWITCHES—simple, powerful magnetic action, factory adjusted to YOUR geographical location assures unfailing results!
• NO NEEDLE SPINNING—exclusive electric braking action saves you time!
• NO STOOPING—easy top-view reading!
• RUGGED—compact, accurate, convenient!
• GUARANTEED—to function regardless of weather, surface or ground cover!
• NATION'S MOST WIDELY USED LOCATOR!
• 15-DAY FREE TRIAL — No money! No obligation! You be the judge!
ORDER NOW — Wire or call Kirby 1-4200 collect for fastest delivery!
AQUA SURVEY & INSTRUMENT CO.
2010 Leslie Ave. Cincinnati 12, Ohio

SterElators by Everson
Chlorine Gas Control Equipment
Visible Flow Indication
Vacuum Solution Feed
for
Water Works
•
Sewage Treatment
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Industrial Plants
•
Swimming Pools
•
Easy to Install
•
Easy to Operate
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Low Maintenance Cost
•
Everson STERELATORS can be furnished for fully automatic, semi-automatic and manual control
Write for STERELATOR Bulletins
EVERSON MFG. CORP.
203 W. Huron St., Chicago 10, Ill.

TIME-O-MATIC
FLASHERS
Jack Mounted
Time-O-Matic Jack Mounted Flasher in Standard Meter Case
Single or two circuits, every model with built-in eliminators. Available with standard meter case (above) or separately with Jack mounting panel (below).
Time-O-Matic Jack Mounted Flasher Only
Time-O-Matic Jack Panel in Meter Case
SPECIFY DEPENDABLE TIME-O-MATIC CONTROLS
•
TIME-O-MATIC, INC.
P. O. Box 850
1108 Bahls Street
Danville, Illinois, U. S. A.

New...WITT "Big Top"

self-closing DRUM LID

converts 55 gal. drums into safe, sanitary receptacles

TOPS in Accessibility! Even large boxes and shovel-in trash will fit in the king-size flap opening.

TOPS in Convenience! 360° "Receptability". That means you can dispose of material from any angle — front, sides or rear.

TOPS in complete low-cost Drum Handling! The WITT "Big Top" Drum Lid plus the Drum Dolly converts any 55 gal. drum to a versatile materials handling unit.

Write us today for complete information or ask your distributor.

Visit our Booth No. 559 at the Plant Maintenance Show, Chicago, January 27-30.

WITT Cans

"Originators of the Corrugated Can"

THE WITT CORNICE CO., 2139 WINCHELL AVE., CINCINNATI, OHIO

HEAVY-DUTY

ELLIS PIPE CUTTER

FOR CUTTING LARGE SIZE PIPE

Drop-Forged Frame and Links

Long-Lasting Cutter Wheels

Makes a Hit With Water Works Men

Cuts Pipe In or Out of Ditch

TWO SIZES

No. 01 for 4" to 8" Pipe

No. 1 for 4" to 12" Pipe

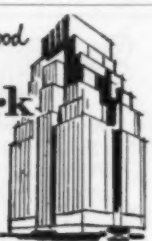
Write for Circular and Price List No. 40AC

ELLIS & FORD MFG. CO.

FERNDALE 20, MICH.

The Crest of Good Living in

New York City



HOTEL New Yorker

34th Street at 8th Avenue

Manhattan's largest hotel with 2500 rooms, all with bath and free radio—television in many. Meditation Chapel open to all faiths. Midtown location. Direct entrance to Pennsylvania Station. Three air-conditioned restaurants.

LAMP POST CORNER . . . COFFEE HOUSE

GOLDEN THREAD CAFE

Singles from $7 | Doubles from $11 | Suites from $23

JOSEPH MASSAGLIA, JR., President

CHARLES W. COLE, Gen Mgr

Other MASSAGLIA HOTELS

- SANTA MONICA, CALIF. Hotel Miramar
- SAN JOSE, CALIF. Hotel Sainte Claire
- LONG BEACH, CALIF. Hotel Wilton
- GALLUP, N.M. Hotel El Rancho
- ALBUQUERQUE, Hotel Franciscan
- DENVER, COLO. Hotel Park Lane
- WASHINGTON, D.C. Hotel Raleigh
- HARTFORD, CONN. Hotel Bond
- PITTSBURGH, PA. Hotel Sherwyn
- CINCINNATI, O. Hotel Sinton
- NEW YORK CITY Hotel New Yorker
- HONOLULU Hotel Waikiki Biltmore

CHICAGO MIDWEST HEADQUARTERS

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Purchasing

Redesigned Washfountain

Bradley Washfountain Co. has redesigned its Duo-Washfountain for easier installation in public washrooms. These efficient units now feature a firmer construction and more attractive appearance. There is no scuff

base at the bottom so that when the hinged and larger foot-treadle is flipped up, cleaning of floors underneath is easier.

A touch of the foot controls the water served by the sprayhead. The two-person bowl is self-flushing, preventing collection of used water. These bowls are made of stainless steel or pressed steel finished in acid-resisting vitreous enamel.

Standard height of the Duo-Washfountain from floor to rim of bowl is 31 inches—27 inches for juveniles.

Additional details on the new Duo-Washfountain may be obtained from BRADLEY WASHFOUNTAIN CO., MILWAUKEE 1, WIS. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 922.

Pipe Detector Redesigned for Greater Accuracy

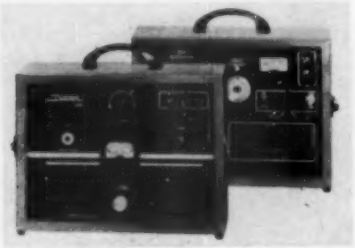
Computer-Measurements Corp. has redesigned its Detectron pipe detector to provide easier, more accurate operation. The improved unit reduces the possibility of cutting unknown pipe with bulldozers and ditching machines. It makes it easier to determine the exact number of pipes which lie in the path of excavating machinery.

Other advantages of the new design include a more stable field signal, which makes it possible to tune the instrument

Purchasing News

more sharply. This in turn improves sensitivity and permits easier "separation" of pipes which run close together. Two closely parallel pipes can now be detected independently.

The new improvements have been incorporated into both the standard Model



505 and the Model 505-C combination pipe-leak detector. Get full details from COMPUTER-MEASUREMENTS CORP., 5528 VINELAND AVE., DEPT. 99, NORTH HOLLYWOOD, CALIF., or you may use the Post Card on the insert following Page 50. Circle No. 912.

New Series Transformers

A new line of unity power factor mercury lamp transformers for 10,500-volt series circuits is said to make possible 50% more lamps per constant current regulator. Each lamp now requires 33% less regulator capacity. As each lamp starts additional voltage is released to start the remaining lamps.

Additional information on the series transformers may be obtained from JEFFERSON ELECRTIC CO., BELLWOOD, ILL. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 912.

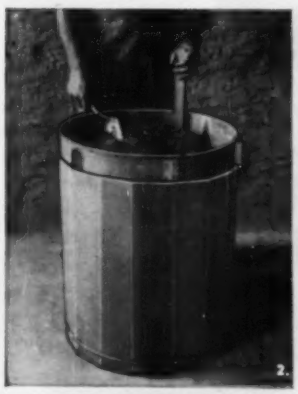
New Sweeper Attaches to Tractor Shovel

The Construction Machinery Division of Clark Equipment Co., Benton Harbor, Mich., announces the availability of a sweeper attachment for its "Michigan" line of tractor shovels. The simple design of the sweeper permits speedy hook-up on the bucket of standard machines. Brooms come in sweeping widths ranging from 50 inches for the Model 12B to 100 inches for the Model 175A tractor shovel.

To operate the new sweeper, the bucket of the tractor shovel is placed on the ground and the operator drives forward. He flips a hydraulic control and the broom rotates and sweeps refuse and dirt into the bucket. No overhang at the sides makes it possible to clean close to curbs and obstructions.

After the area has been swept, the operator simply raises the bucket and broom without spilling the material. When the load is over the haul truck, the operator tilts the bucket and the material spills out.

The new Boston load sweeper is made by the SWEEPER DIVISION, CLARK-WILCOX CO., 118 WESTERN AVE., BOSTON 34, MASS. For complete information, write the company directly, or you may use the Post Card on the insert following Page 50. Circle No. 909.



1. Large illustration shows Singl-use Fiberform ready to be filled.
2. Filling plate and collar simplify pouring concrete into form.
3. Completed meter box barrel.
4. Meter box with cover in place.

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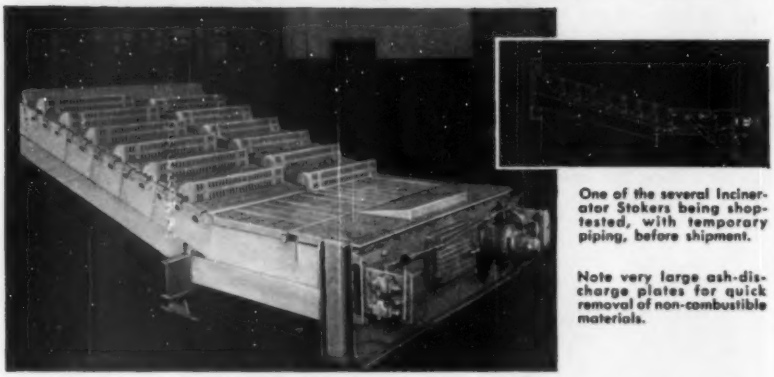

One of the several Incinerator Stokers being shop-tested, with temporary piping, before shipment.

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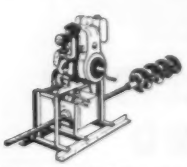

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Purchasing

New Rotary Compressors

Two new models, the RP125 and RP365, have been added to the Gardner-Denver line of rotary air compressors. These units have been designed with a clutch between the engine and the compressor. The engine starts freely, and warm engine water circulates through the compressor oil cooler

Model RP125 comes with either gasoline or diesel engine.

and reservoir. Thus, warm, free-flowing oil is supplied to the compressor as soon as it starts turning.

An oil pump assures positive oil flow for compressor lubrication and cooling, independent of receiver pressure. The water cooling system maintains constant operating temperature for both compressor and engine, regardless of weather conditions.

The RP125 and RP365 are said to require only a few minutes for inspection of working parts. Only 12 cap screws need be removed, and the blades are exposed for replacement.

The RP125 is available with either gasoline or diesel engine. It is 10 feet-6 inches long, 4 feet-8 inches wide, and 5 feet high. The Model RP365 is equipped with a diesel engine as standard equipment. It is 10 feet long, 5 feet-7 inches wide, and 6 feet-5 inches high.

More detailed information may be obtained from GARDNER-DENVER CO., QUINCY, ILL. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 923.

New Drinking Fountain for Parks, Playgrounds

Designed for outdoor installation in public parks, playgrounds and school yards, the Haws pedestal fountain, Model 6R, is built to withstand rough, constant use. It has a rust-proof, stain-proof bowl of aluminum tensiloy which retains its original luster. The fountain is set solidly upon a 2-inch galvanized iron pedestal with tripod base.

The angle-stream, chrome-plated brass

fountain head sits entirely below the rim level of the bowl, making it difficult for vandals to knock it off. The anti-squirt

bubbler is vandal-proof, locked to the bowl to prevent turning. Automatic flow control is provided.

Additional details on the new pedestal fountain may be obtained from HAWS DRINKING FOUNTAIN CO., BERKELEY, CALIF. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 899.

Long Boom Attaches to Tractoloader

Dumping clearances of 13 feet-10 inches under the hinge pin, and 11 feet-4 inches under the bucket cutting edge, are now obtainable on the 2-cubic-yard TL-20D Tractoloader through the use of a special long boom arrangement.

With the new arrangement, the TL-20D has a minimum reach of 3 feet-3 inches at maximum height. At the 9-foot dumping clearance, the minimum reach is 4 feet-6 inches, which is 1 foot-8 inches greater than that of the standard machine. It is recommended for use in materials weighing up to 2,700 pounds per cubic yard.

The TL-20D with long booms has all of the features of the standard model. These include special single lever speed and direction control of the power shift transmission, torque converter, planetary axles pin-connected to the frame, power steering, power brakes and 24-volt electrical system.

Detailed information on the TL-20D Tractoloader with long booms may be obtained from TRACTOMOTIVE CORP., DEERFIELD, ILL. Write directly, or you may use the Post Card on the insert following Page 50. Circle No. 930.

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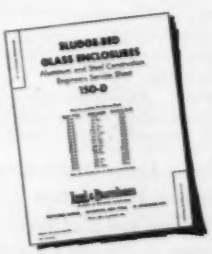

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About People

Three new representatives are announced by Frank A. Sullivan, sales manager of **Wheeler Reflector Co.,** Boston, Mass. Donald B. Rosequist will handle the company's Boston and North Shore areas; William E. Hurry will handle the Maine, New Hampshire and Vermont areas; and Paul T. Smith has joined the Wheeler sales staff as representative for Southeastern Massachusetts and Rhode Island.

Marshall B. McReynolds, head of Traffic Engineers Supply Corp., Richmond, Va., will represent the **Eagle Signal Corp.** in the states of North Carolina, South Carolina, Virginia and West Virginia except the panhandle section. Main offices of Eagle Signal Corp. are located in Moline, Ill.

Robert G. Allen has been elected executive vice-president of **Bucyrus-Erie Co.,** South Milwaukee, Wis. He will report to W. L. Litle, president.

L. B. McKnight, president of the **Chain Belt Co.,** Milwaukee, Wis., announces the election of an executive vice-president and three new vice-presidents. O. W. Carpenter, formerly vice-president, Construction Machinery and Finance, has been appointed executive vice-president. New vice-presidents of the firm include W. C. Messinger, E. M. Rhodes and G. H. Woodland.

Clifford P. Houghland has been appointed field representative for the **American Concrete Pipe Association,** Chicago, Ill. He will make his headquarters at the Association's Washington, D. C., office.

New secretary of the **Portland Cement Association,** Chicago, Ill., is J. L. Schneider, formerly assistant secretary of the Association. Mr. Schneider has been with Portland Cement since 1948.

John B. Saxe and Boris Lochak have been appointed chief consulting engineer and chief engineer, respectively, of **Gibbs & Hill, Inc.,** consulting engineers with offices in Los Angeles, New York and Tampa. Mr. Saxe, chief engineer of the firm since 1953, continues as a vice-president and director of the corporation.

The recent annual meeting of the Electric Overhead Crane Institute, Inc., Washington, D. C., saw the election of Frank M. Blum as president. Mr. Blum is general sales manager for the **Harnischfeger Corp.,** Milwaukee, Wis.

F. G. Merckel, president of **Wallace & Tiernan, Inc.,** Belleville, N. J., announces the election of Dr. F. Visser't Hooft, R. T. Browning, P. E. Sharts and M. T. Tiernan to the company's board of directors.

New general sales manager of the **Wintroath Pumps Division, Worthington Corp.,** Harrison, N. J., is Charles J. Schleeweis, formerly sales manager of the Johnston Pump Co., a division of The Youngstown Sheet and Tube Co., in Pasadena, Calif. Before that he was with Fairbanks-Morse and Co.

C. J. Schleeweis

Denver Equipment Co., Denver, Colo., announces the appointment of the Robert J. Weber Co., Rochester, N. Y., as exclusive Denver SRL pump and Denver vertical sand pump dealer for the northern counties of New York State.

W. C. Schumacher has been elected an executive vice-president and a member of the board of directors of **International Harvester Co.,** Chicago 1, Ill. Mr. Schumacher has been with the company since 1917, last serving as vice-president and executive head of its Motor Truck Division.

From J. B. Cook, Jr., sales manager of the General Products Division, **Hays Mfg. Co.,** Erie, Pa., we learn of the appointment of Henry E. Miller as salesman. Mr. Miller will operate in the States of Missouri, Arkansas, Oklahoma and Kansas. Stanley D. LeMaster, Jr., has been appointed junior salesman in the company's Pittsburgh area.

Arthur R. Armstrong, highway sales engineer with the **International Salt Co.,** Scranton, Pa., has been transferred from the company's Buffalo office to its Philadelphia office. His primary responsibility will be in the highway field in Pennsylvania, New York and New Jersey.

New officers of the **Waukesha Motor Co.,** Waukesha, Wis., include Charles E. Nelson, Jr., executive vice-president; J. Grant Swain, vice-president of sales, and Newton H. Willis, vice-president of engineering. Also Lewis W. Youker, secretary and treasurer, and Joseph J. Kleinbrook, assistant secretary and assistant treasurer.

William T. Ingram and Bernard Newman announce the opening of **Newing Laboratories, Inc.,** 260 Islip Ave., Islip, N. Y., serving the fields of the sanitary sciences.

Succeeding James J. Connaughton as general superintendent of the Cleveland steel service plant of **Joseph T. Ryerson & Son, Inc.,** is Joseph E. Praser. Mr. Connaughton takes over as assistant to the general manager. Main offices of Joseph T. Ryerson are located in Chicago, Ill.

Precision Chemical Pump Corp., Waltham, Mass., announces the appointment of John H. Alexander, Jr., as assistant sales manager.

Directors of the **J. I. Case Co.,** Racine, Wis., recently elected T. A. Haller, vice-president in charge of engineering. Mr. Haller will head the new Case Research and Development Center in Racine, and will have overall supervision of engineering for both the Agricultural and Industrial Divisions. Further news from J. I. Case informs us of the election of Herbert H. Bloom, former president of Massey-Harris-Ferguson, Inc., as president of J. I. Case International, S. A.

E. S. Reddig, chairman of the board of directors of **Minneapolis-Moline Co.,** Minneapolis, Minn., announces the election of J. Russell Duncan as president and chief executive officer and as a member of the company's board. Mr. Duncan succeeds the recently resigned Henry S. Reddig.

J. R. Duncan

The recent annual membership meeting of **The Asphalt Institute,** College Park, Md., saw the election of D. Hugh Jenks, Jr., of the Ashland Oil & Refining Co., as chairman of the board of directors. J. J. Tumpeer, of Witco Chemical Co., has been named treasurer. The Institute has also assigned two new district engineers. Cecil D. Miller will assume duties at the Oklahoma City district office, and Carl S. Larson will join the Institute's new district engineering office at Portland, Ore.

Succeeding C. A. Streb as president of **The Union Metal Mfg. Co.,** Canton, Ohio, is V. J. Lajeunesse, formerly executive vice-president of the firm. Mr. Streb, according to reports, has been elected chairman of the company's board of directors.

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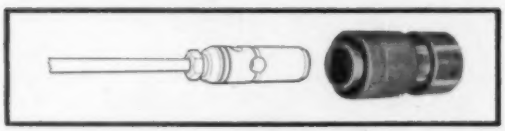

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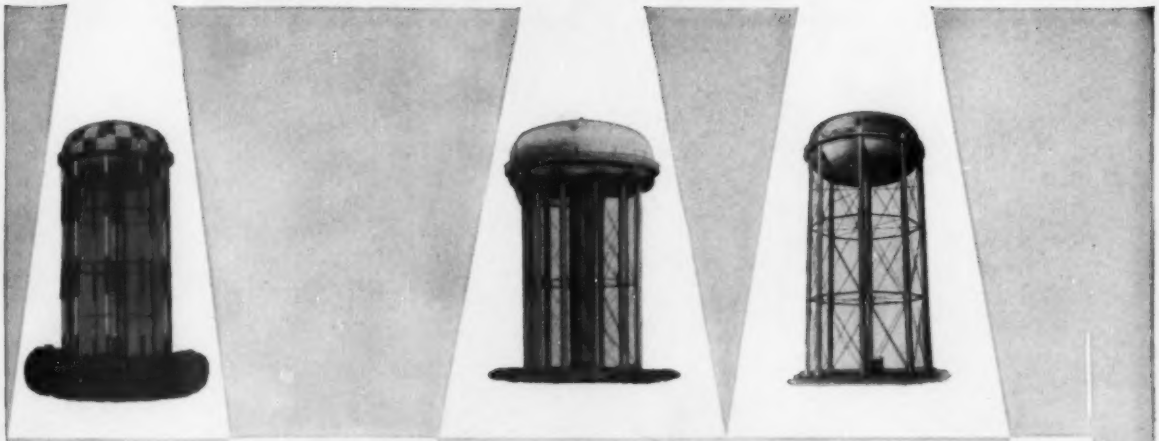
99% OF ALL CAT MOTOR GRADERS EVER BUILT ARE STILL AT WORK



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safe . . . reliable

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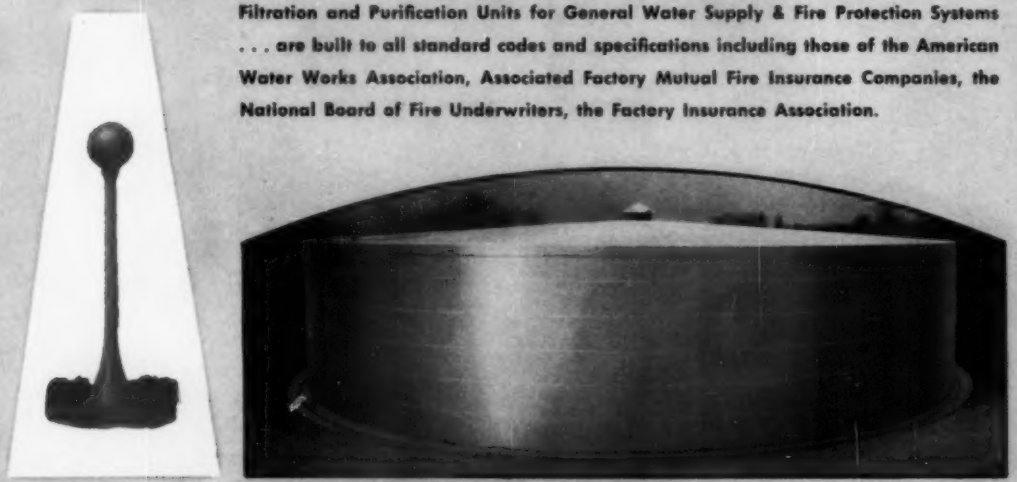
any size—anywhere

Hammond Steel Standpipes, Steel Reservoirs, Elevated Water Tanks, Water Spheres, Filtration and Purification Units for General Water Supply & Fire Protection Systems . . . are built to all standard codes and specifications including those of the American Water Works Association, Associated Factory Mutual Fire Insurance Companies, the National Board of Fire Underwriters, the Factory Insurance Association.



Catalog H_2O details and describes all HAMMOND Water Storage and Processing Vessels . . . Write for your copy

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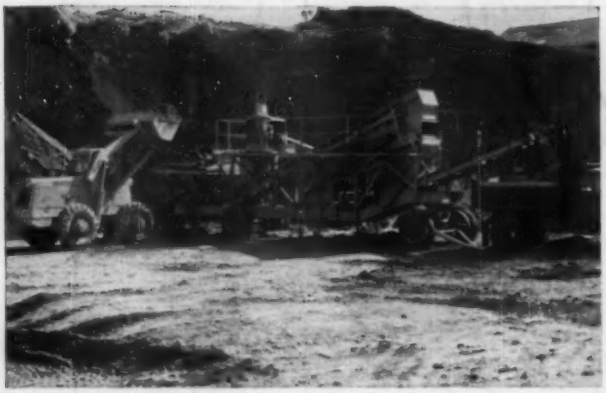
HAMONDTANK

SOME UNUSUAL WAYS

Michigan Tractor Shovels are saving time and money for paving contractors around the country



Feeds portable crusher—Making good use of its high lift, Michigan Model 125A digs and dumps raw bank gravel into hopper of 100-ton-per-hour base material plant. Location: Southern Hills Inc pit, Dayton, Ohio.

Breaks, loads asphalt—Before resurfacing street in Worcester, Mass., Contractor Charles Chaffee uses 1¼ yd Michigan to strip old asphalt. No "ramming" is required—powerful breakout quickly shatters paving.

Pours concrete—Hauling concrete in Michigan Tractor Shovel bucket, Slattery Rock Corp. solves problem of laying 6 lanes of New York's Deegan Expressway under low viaduct. Two of these maneuverable "buggies" needed only 4 hours, 200 to 250 trips to pour 800 ft of each of 12 ft lane.

Grades shoulders—Special side bucket attached to Michigan 175A does jobs not possible with grader drop-blade . . . including filling holes, distributing gravel, removing spoil next to newly-poured slab. Attachment, designed by Villa Contracting Co, is helping widen 27 mi of N.J. Garden State Parkway.

Cleans pavement—Highway must stay open, said Nashville officials, so Wright & Lopez do cleanup with small, agile 16 cu ft Michigan. Only 4'2" wide, 10'8" long, unit works rapidly, doesn't block traffic, doesn't damage newly-set pavement.

Carries pipe—One of Peter Kiewit's Michigans serves as all-around handyman on company's Indiana Turnpike contract. This 95 hp model lifts up to 11,000 lbs, carries 5,500 lbs at 4 mph. Note excellent all-around visibility given operator.